

Breeds of Sheep

By

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THIS VOLUME IS DEDICATED TO

All Sheep Breeders and Flockmasters

For their devotion to the cause of better sheep husbandry; for their economic contribution to the welfare and security of our country; and for their courage in continually endeavoring to produce a better sheep.

Published By

BREEDER PUBLICATIONS
Union Stock Yards, Chicago, Ill.

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PRINTED
U.S.A.

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INTRODUCTION

"JAP" WALKER needs no introduction to the vast majority of the sheep breeding fraternity of this country. He has been closely identified with sheep breeding, both as a breeder and as a leader, for more than thirty years. To many he is known as one of our most constructive breeders and improvers. He has also become widely known as an authority on wool and wool marketing, and in 1918 he organized the Ohio Wool Growers Association and was its Secretary for seventeen years.

In 1927, Mr. Walker was commissioned by the United States government to act as a special representative to visit the important sheep and wool growing countries of the world and study their methods. He is the author of a special comprehensive official report on his findings of value to our sheep raisers.

The author has never ceased in his interest in sheep breeding and in wool production and marketing, and he is the author of the book "Wool Production and Marketing," a treatise that should be in the library of every sheep breeder and wool grower.

P. V. Ewing
Chicago Illinois July 1942



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FOREWORD

MANY EXCELLENT BOOKS on sheep husbandry have been written. Some of these have gone rather fully into the development of the various breeds, but generally from an historical rather than a biological angle. While it is of interest to know what particular breeds originated in certain sections, it is of much greater value to breeders to know what combinations of blood lines were used, what results followed and how prepotent were the offspring.

Breeding of livestock has, to date, been largely a matter of trial and success or trial and error. No fixed standards have been established and no hard and fast rule which will insure success is known. Some have been fortunate enough or keen sighted enough to bring together animals that seem to possess the ability to transmit superior qualities. These men have become known as master breeders and their stock widely used in efforts to improve the breeds. The theory that "like begets like" is an old one and one that has been widely accepted in breeding circles. This theory applies both to animals of similar individuality or breeding. More recently we have recognized the fact that individuals of identical breeding and even close resemblance may breed very unlike and that it is not enough merely to look to ancestors. For example. Don Dudley, bred by J. P. Ray of New York, was without doubt the most noted Merino ram of his day, both as a sire and as an individual. His full brother was an absolute failure as a sire and was sent to the butcher, although he was a good individual.

Some years ago in discussing this difference in breeding ability between these full brothers, with a New York gentleman who new the Ray flock intimately, he remarked, "Had you known the ancestry of these rams you would not be surprised. One of these rams bred true to the best blood in the flock, while the other was a throwback, so far as breeding was concerned, to one very common grandparent."

The question of breeding, therefore, is greater than merely putting individuals of the type we desire together. Such individuals may represent widely differing types in their ancestry and unless some systematic practice of breeding has been followed to fix and hold the desired type through successive generations, one may expect to find wide variations continuously cropping out.

Scientists are devoting considerable thought to reducing breeding of improved livestock to a more exact basis. So far, little has been discovered that has proven of commercial value to breeders. It is doubtful whether any better method will be found for some time than that used in developing our breed of harness horses. Namely, the concentration of prepotent blood, severe culling out of animals showing undesirable qualities, the continued practice of mating families together that result in better individuals. This practice, frequently called "the nick", has contributed much to the advancement of livestock breeding.

The bringing together of two breeds, or two distinct families within a breed, has frequently resulted in animals of superior merit, with the ability to transmit it through succeeding generations. It has also worked in the opposite way, and the test of breeding comes in the willingness on the part of the breeder to sacrifice animals resulting from wrong matings and put them on the market, rather than to attempt to pass them on as breeding stock or to keep them and attempt to breed out their deficiencies.

More than thirty years of breeding pure bred stock and of fairly wide contacts with those engaged in the business has convinced the writer that only a minority of breeders are familiar with the background of their breeds. And without this knowledge the hazards of the business are tremendously increased.

It is with the hope that this book may supply that need that it is presented. No effort has been made to discuss breeding from a purely scientific angle. About the only law in that direction that we have at present is the Mendelian one, fairly easy to apply to certain minor characteristics, such as horns, color, etc., but vastly different as applied to body structure or wool production, the things which should most concern the sheep men.

How the breeds originated, what were the objectives sought for, what blood was used, and how, how has type been maintained and how the breeds have been modified to meet breeders' ideas or commercial demands are the topics with which every breeder should thoroughly familiarize himself before he can be at all sure of his ground in breeding pure bred stock. It is hard to build, intelligently, a permanent super-structure without knowing anything about the foundation upon which it is to be reared.

Three breeds stand out distinctly in discussing modern breeds of sheep — the Merino, the Southdown, and the Leicester. These breeds have entered very largely in the development of practically all of the breeds common in the United States and the British Empire. Considerable space has been given these breeds because of this fact. The story of their development and influence on the sheep industry of the world is one that should be carefully studied by every breeder of sheep, not alone on account of their blood in the breed in which one may be interested, but also because they demonstrate the ease in changing types to meet climatic or economic conditions.

In emphasizing these three breeds no inference is made that

today they are the most important ones. The fact that in earlier days during the formative period of most of our modern breeds, they did make a contribution is enough. It would be foolish to argue that horse that was a straight Hambletonian 10 was better today than one that carried other blood in his veins, but it is certainly true that the harness horse industry owes much to the influence of this famous sire and that few, if any, of our modern trotters and pacers but carry his blood.

Neither is it the purpose to discuss these three breeds from the standpoint of their age, although they are among the oldest of modern breeds of sheep. The fact that one has existed for a long while means little. Methuselah lived almost a thousand years, but what about it? Fifty years ago it was hard to pick up a Percheron pedigree but what back in the third or fourth generation one ran into the Arabian and English thoroughbred stallions that gave the breed its first prominence. The modern type Belgian is still younger. It is not age that makes prepotency or that enhances the value of a pedigree. It is the continuous breeding to one type, concentrating blood that proves the ability to perpetuate that type and the rigorous culling of all animals deviating from it.

If this work can be of any assistance in helping sheepmen to a better understanding of wool and mutton production, the time and effort expended on it will have been well worth while.



CHAPTER I

Early Types of Sheep

SHEEP HAVE BEEN CLOSELY ASSOCIATED with civilization since its first history. The first record of livestock in the Bible was a reference to sheep. Ancient Egyptians perpetuated sheep through drawings and carvings in their oldest monuments, and even mummified bodies have been found. The early lake dwellers of Switzerland, the first inhabitants of Greece and Rome and the tribes of the Barbary States of North Africa, all had sheep back as far as records extend.

In early times shepherding was a nomadic type of life. The flocks were trailed from one place to another and the owners lived in tents, following from one feeding ground to the next. Breeding in those days seems to have been largely a matter of natural selection. Meat and milk were of greater importance than wool and for many centuries, or until the art of weaving came into existence, but little attention was paid to fleece.

These early breeds of sheep fell largely into three classes — and oddly enough they could be classified by the length of their tails. There were long tailed, medium tailed and short tailed sheep. The long and short tailed breeds were primarily meat sheep. The wool producers and their wool was either a mixture of short, fine undercoat and long, hairlike outer coat, or even almost without either wool or hair. It is from the medium tailed group that most of our modern breeds have descended.

This combination, soft short undercoat and long outer coat was common to all breeds in the beginning. It is still character-



Relief of rams of Cilicians of distinct Fat Tail type on the Apadana staircase of Persepolis. Circa 500 B. C. (Photo courtesy Oriental Institute, University of Chicago).

istic of all wild or unimproved breeds today. The long outer coat is not true hair, but a modified type of wool, and according to some writers the fine undercoat is almost a true hair. The breeder's task of modifying both of these fibers into a uniform whole has been no small one, and even today we find an occasional throw-back in fleece to some remote ancestor.

Early breeds of sheep were nearly always horned. In some breeds four horns were common, and occasionally six horns would appear. In the Hebrides Islands, off the coast of Scotland, a breed known as Soa, or Soay sheep have this peculiar trait of multiple horns. Certain breeds in Africa and others over northern Europe still possess this same characteristic.

Just what was the parent stock of the early improved breeds of sheep is not definitely known. Many consider the Mouflon or wild sheep of Europe to have played a very important part in this work. This breed, which is found in Sardinia and Corsica is very closely related to the Argali of Asia and to the Rocky Mountain sheep of North America. By some, all three of these are considered identical. In Dr. Duerst's opinion the Mouflon was brought into Switzerland at a very early date and domesticated there and possibly crossed with other breeds. From there it spread over Europe, forming the basis of many modern breeds.

Youatt disagrees with this statement and expresses the opinion that modern breeds of sheep descended from an early primitive breed existing in England from a very early date, even before the Roman conquest.

All over northern Europe a breed or breeds of short tailed sheep were common in early times. These had many points in common with the wild sheep of Asia, North America and Sardinia and may have contributed somewhat to the development of the present day breeds.

One thing seems certain, all the early breeds had two distinct

coats of wool, a coarse, long outer, and a short, fine undercoat. Most were horned and frequently horns were common in both sexes and in some breeds, multiple horns were the rule. Varigated colors were also incident to these early breeds, ranging from black to white or piebald. It seems that red color was associated with the production of the better grades of wool, and the red sheep of Tarturia were long noted for superior fleeces.

As stated before, most modern breeds of sheep fall in the medium tailed group, and we do have some accounts of the ancestors of our present day breeds.

In the British Isles one finds more different breeds of sheep than in any other country. Breeds have been localized from early times and widely different types may be found in close proximity to each other, but observation will show that though these localities may be adjacent, there is a wide difference in types of soil or vegetation, which accounts for breed variation.

It has been through selection and various crossings that the modern breeds have been developed and it is worth the time to consider, briefly, these ancestors of the sheep with which we are familiar.

Scotland had several breeds, but of the same general type. Small in size, angular in form, generally horned and carrying a soft wool. In color they varied, some were brown, others black or white. The browns frequently faded, leaving a dun face. They were very hardy and disease free. These breeds have disappeared through crosses, but their influence in hardness is still to be found in many flocks in that country.

Wales had a breed somewhat similar, but white faced. The old Radnor sheep of Wales seemed to have been a combination of this breed, and the Welsh Mountain, a breed still common in Wales and noted for the fine quality of its mutton.

In Ireland the Kerry was found. A larger sheep than the

Welsh, small crooked horns and long coarse britch wools. The quality of the mutton was considered excellent. The breed has largely been supplanted by the Kerry Hill, a large, rapid growing, hornless breed still noted for good mutton.

The great forest and moor tracts of England carried sheep from an early date. This country embraces Dartmoor, Exmoor and parts of Shropshire, Cheshire, and Leicestershire. These sheep differed from those in Scotland, Wales and Ireland by having a short wool much finer than that of the countries just mentioned. Here again horns were prevalent and legs and faces generally dark. The carcass was deficient in conformation but of good quality. It has been the general practice to cross the sheep of Dartmoor and Exmoor with Cheviots until few if any, of the original type can now be found.

Another rather primitive breed of England which seems to have been largely improved within itself is the Herdwick, a rather distinctive breed in which the young are born black face and legs which gradually fade to grey. The sheep matures very slowly, is extremely hardy, horned and very active. It is claimed to produce a quality of mutton not equalled by any other breed.

Somewhat similar in hardiness is the Black Faced Highland, a breed whose origin is claimed to have been Spanish and which was introduced into England by the sinking of a Spanish war vessel by Drake. The sheep swimming ashore from the boat. The wool is long and coarse but it has established itself in the Scotch mountains and no breed has been able to take its place. In early days, the breed was named "colly" and the dogs used to handle them were called "colly dogs". This name has been changed to "collie" and is still applied to dogs.

The old Norfolk breed was a long legged, long bodied, horned breed with black face and legs and fine, silky-wool. This breed was one of the ancestors of the Southdown.

In western Yorkshire a local breed is found called Penistone, a rough made, wiry fleeced, white faced breed with a very heavy tail. Apparently, the breed has been able to adapt itself to a rough diet and has doubtless been retained for that reason.

The Wiltshire was known as a very ungainly breed but possessed a fine quality of wool. Some regard it as a cross between the old Norfolk and Merino. The head was very coarse, face and leg white, both sexes carried horns, bone heavy and leg long. This breed, crossed with Southdowns and other breeds, eventually produced the Hampshire. Hampshire had an early breed almost identical with the Wiltshire except for speckled face and leg.

The Southam Notts and Bampton Notts in Devonshire were long wool in type and crossed with Leicesters, became the present Devonshire, a very large breed reaching up to four hundred pounds in weight.

Aside from the Merino and Rambouillet, the other European countries have no sheep found in the United States with one exception. This is the Churra breed of Spain and this breed has occupied a rather unique position in the sheep husbandry of our country.

The Churra is a hornless breed, long wooled and coarse fleeced. When the early Spanish explorers came up through Arizona and New Mexico, flocks of these sheep were driven along to furnish food. Some were left in the country to become the progenitors of the Navajo flocks. The Navajo tribe carried off Pueblo Indian squaws who taught them weaving and jewelry making. So now we find a people who are widely known for their rugs and jewelry indebted to Spain for their original flock foundation and to the Pueblos for their artistic skill.

CHAPTER II

The Merino

THE MERINO WAS ONE OF THE FIRST of modern breeds of sheep to acquire a fixed type. This type was confined largely to wool characteristics as wool was the product most sought for.

Just when this process first started is a matter largely of tradition. Certain it is that more than 2000 years ago the Romans on the north shores of the Mediterranean Sea and in Carthage and Phoenicia on the South shores paid great attention to wool production and the development of fine fleeces. Pliny refers to the ted sheep of Tartaria as having no superior and that this breed played an important part in the ancestry of the Merino is evidenced by the frequent occurrence even today, of red ears, red legs or even a lamb born entirely red. Such animals nearly always show superior fleeces later in life and illustrate the tremendous part that heredity plays in our breeding programs.

We generally refer to the Merino as being of Spanish origin. There is much to prove that the breed was introduced into Spain from Italy. Originally, the breed carried a high percentage of black blood which was highly valued. This was gradually bred out, but an occasional throwback may be found. The greatest improvement in developing Merinos has been said to have been brought about by the Moors who at that time occupied Granada, a province in Spain. It is certain that the Moors were the best artisans in the manufacture of fine woolen fabrics, which

were known all over the world for their quality. When the Moors were driven out of Spain their flocks were confiscated and became the property of Spanish nobility. Thus were established the huge flocks or "cabanas" which later made Spain the source of the world's finest wool.

Much has been written about the method of handling these flocks. There are one or two practices which might be considered because of the influence which they had in developing fixed characters in the breed.

The first is that of herding and driving in large bands. All sheep which did not want to stay with the band and wandered away, were the prey of wild animals or other enemies. Eventually, this resulted in weeding out the blood of all those not "group-minded" and fixed the habit of flocking, which still persists.

The next was the long trips made each Spring into the mountains and back again in the Fall to the lowland winter quarters. It required a good constitution to make such a journey and, as the ewes were never killed, but kept as long as they were able to travel, it is evident that those which survived the longest would leave the most progeny and through the "survival of the fittest", hardiness and vitality became another fixed quality. It was also the policy of the shepherds to kill all weak lambs at birth and to put a strong lamb on the ewe. Many, if not most, of the lambs suckled two ewes and the need of an abundant milk flow was diminished. So the Merino became a sheep of moderate milking qualities.

A sound, hard hoof was essential. Sheep that were able to make the trip without becoming lame and also by natural selection, the Merino developed a hoof that grew rapidly and was of hard texture. This is a characteristic that has been to its disadvantage in some areas.

Another point well worth consideration is the fact that the Merino was developed in a warm, dry country and today shows its greatest perfection of fleece under similar conditions of climate, as evidenced by the superfine wools of the more arid sections of Australia and South Africa.

There has never been any evidence submitted to prove that the Spaniards in any way made any improvement on the Merino other than that coming about through natural causes as previously mentioned. No record of the selection of superior sires to mate with the best of the ewes for flock improvement can be found. Mating was purely a matter of chance and a hundred years of constructive breeding of Merinos in other countries advanced the breed more than the entire two thousand previous years had ever done.

The Moors did maintain distinct families within the breed. These families were continued under the Spanish rule and about five different flocks or cabanas were recognized. There was not the difference in these cabanas that characterized the various types of Merinos later developed in other countries. Such differences as did exist were those of relative fineness of fleece, amount of oil in the fleece or development of neck wrinkles.

In describing them, the Escurial flock was said to have the finest fleece; the Guadaloupe the best carcass; the Paular the greatest amount of wrinkles, (confined primarily to the neck); the Negretti were the largest; the Infantado were much like the Paulars, but somewhat finer in fleece.

It would appear from the above that there was little difference in the value of the various cabanas and the Spaniards so regarded the fact, but no interchange of blood was made between these flocks. It remained for those who took the breed into other countries to do that. In practically every country where Merinos have been introduced, cross breeding of these

families occurred. Some confined themselves to two or three of the cabanas and some, as in the United States, crossed all of the five promiscuously.

It is rather amusing to note that in later years, when the question of purity of blood in Merino flocks was the all vital issue, that those who did more cross breeding among the various Spanish families than any others, the Spanish Merino breeders, were the loudest in their denunciation of those who used Saxony or Rambouillet outcrosses at a later date. The only inference that can be drawn, after a careful unprejudiced analysis of the argument, is, that intermingling of the blood of the various Merino families was considered a fine thing up to a certain date, and after that, it became both dangerous and reprehensible.

The story of the Merino that is of real importance to the student of breeding, is that of its development in other countries of the world. It has been the foundation upon which the large wool producing countries of the world have built their flocks and in each of these countries we find various types which have been developed to meet the real or fancied needs of sheep breeders and the sheep industry. No breed better illustrates the ability of the sheep breeder to mould a breed to his fancy than the Merino.

Consider the Saxony, weighing sixty to seventy pounds with its superfine fleece, an inch and a half to two inches in length and from two to three pounds in weight. Compare it with the Rambouillet weighing twice to three times that amount, or with the South Australian Merino with its twelve to fourteen pound fleece three to four inches long and one-half to three-eighths, 56-60's, grade. Compare the Delaine and A type Merino and one can visualize the possibilities in changing breed types.

The Saxony Merino

In 1765 Prince Xavier of Saxony secured 229 head of Mer-

ino sheep from his brother-in-law, the King of Spain. This shipment was selected from the best flocks in Spain. These sheep did not deteriorate in Saxony and a second importation was made in 1777 consisting of 276 head. This shipment came from the Negretti cabana exclusively. Thus was the foundation for Germany's fine wool industry laid.

As with most new things in agriculture, the farmers did not take readily to the new breed. Finally, all tenant farmers occupying crown lands were compelled to take a certain number of Merino sheep and then they became enthusiastic over them. Matings were entirely with production of the finest fiber in view and Saxony wool became the world's finest. In following this procedure size and conformation were neglected and loss of constitution followed. At that date, the association of extreme fine wool with a weak constitution had apparently not been noted and it is quite possible that many animals were carrying fine fibered fleeces because of a constitution so weak that they were unable to grow a strong healthy staple.

One more point on Saxony breeding methods of interest was that no inbreeding was practiced as they feared it would degenerate their flocks. In Spain no attention was paid to this point and often the very closest of inbreeding was practiced. These are illustrations of where outbreeding did not provide vigor and constitution and where inbreeding did not cause the loss of it.

The fleece of the Saxony sheep weighed from one and a half to two pounds of washed wool in the ewes, and two to three pounds in the rams. It was of great brilliance and fineness, but short, varying from one inch to an inch and a half in length. The carcass was small, weighing about sixty pounds, and angular. Long necks and legs and slim bodies were the rule. Few wrinkles were found on the body, but folds were common on the neck.

The German flockmasters devoted much time and attention to the improvement of their sheep. At weaning time all lambs were required to pass a certain standard of quality. All not coming up to this standard were rejected. Again, at the age of one year, a second examination was made and finally, at two years of age, a third inspection occurred. Sheep passing these three tests were considered good enough to be used as breeding stock and were identified by means of a chain around the neck with a tag bearing the owner's mark. Heavy fines were provided for theft or forgery of these marks.

Silesian Merino

Silesia, a province of Germany, also did very constructive work in improving the Merino. The early representatives of the breed are said to have descended from sheep introduced by the Romans. It has been stated that the Merinos secured in Spain for this province were largely of the Negretti family, the largest of the Spanish sheep. Count Von Magnis was the leader in this work, later followed by M. Fischer and M. Gaddeghast, whose flocks became world famous.

The Silesian Merino never attained much prominence in the United States. An importation was first made in 1851, followed by three or four at later dates. At that time the Silesian ewes were weighing from one hundred and ten to one hundred and forty pounds and shearing eight to twelve pounds of wool, said to compare very favorably with Saxony wool. The rams weighed one hundred and forty to one hundred and eighty pounds, shearing twelve to sixteen pounds of wool.

No records are available as to what became of these importations. At that time, rivalry between owners of the various families of the Merino was very intense and no admission would be made of any blood being introduced from other families. It is altogether likely, however, that the Silesian Merino flocks were

absorbed into some of the Merino and Rambouillet flocks of that day.

In Australia, one flock of pure Silesian Merinos is still to be found. This flock was secured from M. Gaddeghast about 1850 and has been bred strictly within itself since. The writer saw this flock in 1927 and was greatly impressed with the quality of the wool and the compact forms of the sheep. The ewes in this flock averaged about eleven pounds of very high quality wool, while the rams sheared up to twenty pounds.

Other breeders in Germany used rams from the French flock at Rambouillet and developed a Rambouillet sheep somewhat different from that to be found in the French stud.

Later, sheep from two of these flocks, Baron Von Homeyer and M. Steiger were brought into the U. S. and their blood was widely used in the modern Rambouillet.

The Merino in France

In southern France a type of Merino has been developed that is possibly today more nearly like the old Spanish Merino than can be found elsewhere. The same system of migrating the flocks still exists, the flocks being kept in the mountains in the summer and brought back to the lowlands in the fall.

The Arles Merino has been developed through the use of Spanish Merino blood on the native breed of the country. A breed that as early as 1206 A. D. was referred to as being noted for its quality of wool and flocking habits.

The first infusion of Merino blood was made early in the 18th century when M. Colbert secured a number. In 1776 another importation was made by M. Turgot and at the treaty of peace in 1795, Spain was obligated to permit 4000 ewes and 1000 rams to be sent to France. Many of this importation were sent to regions not adapted to the breed and were the victims of climatic or feed conditions. The Arles region proved quite favor-

able and a program of breeding followed of always using rams of pure Merino ancestry until the breed became absolutely fixed in type.

In 1806 an imperial sheep fold, similar to that at Rambouillet was established at Arles. This was abandoned in 1826 over the protests of the flockowners of the region who for forty years after tried without avail to have it re-established.

As late as 1890 three distinct types of Merinos were to be found among the flocks of Arles. It may be mentioned in passing that three types of Merinos seems to be a favorite number among Merino breeders. We find it in the United States and Australia, the large Merino countries of the world, and we have even gone so far as to promote five types here, but more of that later. Since 1890 the flocks in France have approached a common type which is described by M. Amelbert as follows. "Large head. The males usually have large horns. Those without horns are called 'motti'. About one to two percent of the females have little horns extending backwards. The forehead is broad, the face short and the neck large. In the aged males the skin is wrinkled on the forehead. The ears are small and horizontal. The neck is a little long, sometimes with folds, and sometimes there is a dewlap. These last two characteristics are suppressed as much as possible. The body is broad and the back straight. The quarters are high and moderately developed. The skin is supple and a dense fleece covers the body and legs. In the best animals, the wool forms a tuft on the forehead and that wool on the legs reaches to the hoofs. The fleece is white, about one percent of the sheep being black or brown. The locks are very thick and square. The wool is wavy, fine and lofty and is from two and three-quarters inches to four and three-quarters inches in length. The fleece of the female weighs from four and one-half to six and three-quarters pounds and the ram fleeces

from nine to eleven pounds. The rams weigh from one hundred to one hundred and twenty-five pounds and the ewes from sixty-five to ninety pounds." Such is the description of the breed by a Frenchman. To the writer the sheep looked decidedly angular, with long necks, head and legs. The wool was loose but of excellent quality.

A rather interesting comment is made in the treatise of M. Amelbert on the presence or absence of horns in the rams, is that cases of sterility are more common among polled rams than horned ones.

In recent years crosses with the Southdown and Shropshire have been made with some of the Arles Merinos flocks, with results that have proven quite satisfactory.

The Rambouillet

In 1786 King Louis XVI of France obtained 318 ewes and 41 rams from the Cabanas of Leon in Spain. These sheep were placed on the experimental farm at Rambouillet, since which time they have been bred entirely within the flock. What is more, three distinct families are maintained. This is a marked instance of long time continuous inbreeding.

In order to appreciate what has been accomplished at Rambouillet a description of the original foundation flock and its early progeny is needed. Fortunately, such a record is available. It is written by M. Tessier, Inspector of the Rambouillet flock, and published in 1811, some twenty-five years after the flock was founded. In describing the original importation he says, "From the extremity of the forefoot to the withers it measures from twenty to twenty-five inches; in its greatest circumference three feet and some inches, and from the top of the head to the origin of the tail about three feet. When alive it weighs from sixty-five to eighty-five pounds." He remarks upon the improve-

ment in size during the twenty-five years and states that a yearling ram weighed a hundred and fifty-one and one-half pounds.

From the above we turn to the pamphlet put out by the Director at Rambouillet in 1927 and quote. "The authentic Rambouillet is a sheep of middle size. The principal measurements and weights show the average as follows. Height, $27\frac{1}{2}$ inches. Length of body from shoulder to hip, 30 inches. Circumference at chest, 39 inches. Live weight, 155 pounds. Weight of wool, 15 to 22 pounds. Length of wool, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches. Head, rather large; nostrils, open and movable; jaws, fitting well; horns reduced and regularly curved; skeleton, large; limbs, robust and vertical."

In discussing the families or types, the Director states. "Three families are raised and maintained.

Type 1. — Very folded, with three collars on the neck; apron double on the breast; folded on the limbs. Wool extra heavy, length $2\frac{1}{2}$ to $2\frac{3}{4}$ inches; sweat yellow, undulations dense.

Type 2. — Intermediate with two cravats, a large apron, folds hardly present. Wool superfine of middle weight, $2\frac{5}{8}$ to $2\frac{4}{5}$ inches in length, sweat lemon color.

Type 3. — Slightly folded, one collar, one apron, wool superfine, light, sweat white, very liquid; length $2\frac{3}{4}$ to $3\frac{1}{2}$ inches. These types are of equal purity of Rambouillet blood and possess a common superiority." Note. Sweat is the term generally applied to oil in the United States.

In discussing flock management it is stated that animals have never been forced to maximum growth as "It is well known to breeders that animals made perfect by rich and copious food degenerate or succumb when transferred to new lands or conditions, and that *the reproducers, favored too much by good food, become sterile.*" This last statement is one that may well be considered by some of our breeders and showmen.

The Merino in England

The third country to try out Merinos was England. In 1791 the King of England secured a consignment from the Negretti flock of Spain. Climatic conditions proved unfavorable there and the breed never was very popular, due partly to this fact and also to their lack of mutton. They were used quite extensively in cross breeding on English breeds and the influence of their blood is still noticeable.

In 1811 a Merino Society was established in England, but from that date their popularity decreased and the last flock of any size, that of M. Henty, was sent to Australia about 1829.

The Merino in the Southern Hemisphere

The first Merinos to be exported to the Southern Hemisphere were sent to South Africa. Merino rams being sent there to improve the native fat-tailed variety of sheep. In 1790, the Dutch East India Company sent a shipment of Merinos to a Captain Gorden. They were not very popular, however, and at his death his widow sold 32 head to Captain Waterhouse of Australia, who succeeded in landing 29 of them in New South Wales.

A portion of this shipment was secured by Captain McArthur, and a part by Rev. Samuel Marsden. These two were the pioneers in the sheep industry in Australia and to Captain McArthur in particular, credit must be given for his work in promoting the business. In 1827 he established his flocks at Camden Park, and here, at the present time, a few Merinos are kept that are strictly of the original type as when the flock was first founded. This flock affords a wonderful illustration, when compared with modern Merinos, of the ability of the breeder to mould sheep to his fancy and of the possibilities of constructive breeding.

The Henty flock of England, as before noted, was brought to Australia and was the first to settle in Victoria. Here was



A highly developed, strong wool South Australian ram at eight years of age. This ram was sold for \$20,000. Australian rams have been sold for as much as \$25,000.

found short, sweet grass plains, a mild climate and a rainfall to insure feed throughout the year. Victoria became the leading producer of wool of fine quality and here was produced much of the superfine Merino wools of the country.

The Tasmanian Merino

In Tasmania, an island lying south of Australia, the Van Dieman Land Company sent a shipload of Merinos in 1827, of Saxony Merinos. A second shipment from the Henty flock of England followed shortly. The most important importation came in 1835, however, and was accidental.

A Mrs. Furlong of Scotland, finding her son threatened with tuberculosis, decided to move to Australia in the hope of saving his life. She decided to take some Merinos with her, and she and her son started on foot, through Saxony, buying a few top sheep from each flock they visited and driving them with them as they traveled. Finding they were not going to be permitted to take these sheep out of the country, they drove them into Switzerland and down to Italy, taking a boat for Australia. A storm drove the ship south and it put in at Hobart, Tasmania. The governor of the colony was so impressed with the quality of the shipment that he gave Furlong a grant of 2600 acres in the central part of the Island and from this foundation most of the noted Tasmanian stud flocks are descended. These Tasmanian stud flocks have played a very important part in the development of the sheep industry of Australia, particularly the fine wool type.

The Australian Merino

Sheep were first introduced into Australia in 1797 when Capt. Kent and Capt. Waterhouse brought some Merinos from Cape Colony of South Africa. A part of this shipment came into possession of Capt. McArthur, who bred entirely within the flock except for a few head imported from the Royal flock of the King of England at Kew in 1804. This flock is now gov-

ernment property and the sheep are still being bred to their original type, purely as an educational feature.

Capt. Kent's portion of the flock was secured by Mr. G. M. Cox, and this flock also is still in existence.

Capt. McArthur maintained an individual record of each sheep as to size, form, ancestry, yield of wool, length, fineness and density — a breeding record of the greatest value.

In 1829, the Henty flock, the best in England, was brought over, and to these three studs most of the Australian sheep trace with the exception of some founded on French and Saxony importation.

In 1883, Sir Samuel McCaughey, at Coonong, imported three Rambouillet and seven Merino rams from the Bullard flock of California, and, in 1886, he came to America and secured forty rams and one-hundred-twenty ewes, largely Vermont blood. He continued to import until in 1903 he had 1660 Vermont ewes shearing from 15 to 35 pounds each, with an average of 20 pounds, and 800 Vermont rams shearing from 24 to 54 pounds, with an average of 30 pounds per head.

These imported sheep raised the average weight of the fleeces of the country around three to four pounds per head, and the quality of the wool was said to be the best. The result was that American blood was very generally introduced into Australian flocks as well as those of Tasmania. In an effort to secure greater weight, the production of oil was encouraged.

Early wool production, in Australia was devoted to breeding as fine a fleece as possible, and, so long as the sheep could be run on the coastal plain areas, where there was ample grass and abundant rainfall, this type of Merino was very profitable. However, due to the failure of the gold mines in Western Victoria in the late fifties, a large number of men were thrown out of work and the Government commandeered many of the large sheep

ranches, or stations, as they are termed, for farms for these people. This forced sheep men back into the drier areas, where it was found that the real fine fleeces did not stand up, so a new type was evolved.

To the Peppin Bros. can be given the most of the credit in developing this type of Merino and the term "Wanganella Merino" has frequently been applied to the type in honor of the name of the station owned by Messrs. Peppin. This strain of Merinos is larger in size, more robust in constitution and carries a stronger fibered fleece. It is divided into two types, medium and robust wooled, so the types of Merinos in Australia are distinguished by fleece character rather than markings. The fine wool, 70's to 80's or finer, the medium wool, 60's to 64's, or half blood to average Delaine, and the robust wools, 56's to 58's or three-eighths to low half blood in grade.

The story of the development of the Wanganella is a very interesting one. The Peppin flock originally was largely of Tasmanian blood. To bring about the desired change, rams of Rambouillet breeding were used with good results. It is stated that an American Merino ram was also used and there was an infusion of long wool injected into the flock. This statement has been denied but there is much to substantiate it. The type of head with black spots found on nose and face, in many instances the distinct crimp that is found is crossbred Merino-Long-wool sheep, together with a luster not found in Merino wools, the high carried scrotum which is characteristic of long wool sheep and not of Merinos, all indicate the presence of the long wool ancestry. The infusion, if made, certainly proved advantageous. Today it is very doubtful whether any type of Merino can compete with the medium and robust wooled sheep in semi-arid regions.

The South Australian Merino runs to the Wanganella type, although some of the leading studs carry no blood of this strain. One stud in South Australia, the Murray stud, has a very interesting history and illustrates the possibilities of constructive breeding. This flock was driven overland from Victoria about 1843 and was of the fine wool type. No outside blood has ever been brought into the flock, but the size of carcass has been practically doubled, form and constitution decidedly improved and weight of fleece almost tripled, the wool being a 60's or half blood in grade. This flock shows no indication of long wool blood. It practices what it calls a "climatic outcross", maintaining flocks at different places and bringing rams from one flock to the other. The breeding of these different flocks is identical but the claim is made that the raising of sheep under different environments, and mating them together results in crossbred vigor even though a very close relationship may exist. The success in this flock seems to substantiate the theory.

The story of the Merino in Australia has not been one of continuous improvement or consistently breeding to one type. As stated before, the first type was the fine Saxony one, then came the larger, longer stapled, more rugged Wanganella, a plain bodied sheep of good form. Next came the heavy marked wrinkley craze, when American Merinos were purchased in numbers and heavy greasy wool, produced on very wrinkley sheep was the style during the 90's to the turn of the present century.

Sir Samuel McCaughey imported large numbers of Merinos from Vermont and in 1903, at a public shearing, 1660 ewes of pure Vermont breeding sheared an average of 20 pounds, the lightest fleece being 15 pounds and the heaviest, 35 pounds. 800 rams similarly bred sheared from 24 pounds to 54 pounds. Bruni, in his "Australian Merino Studs" states that the fleeces

from these sheep were "grease with sufficient wool to hold it in suspension."

The blow fly and the discrimination of the wool trade against these wools, combined to bring this type into disrepute, and today no one acknowledges the presence of American blood in his flocks, although it is certain that some of it exists as it was too widely used to have been entirely discarded.

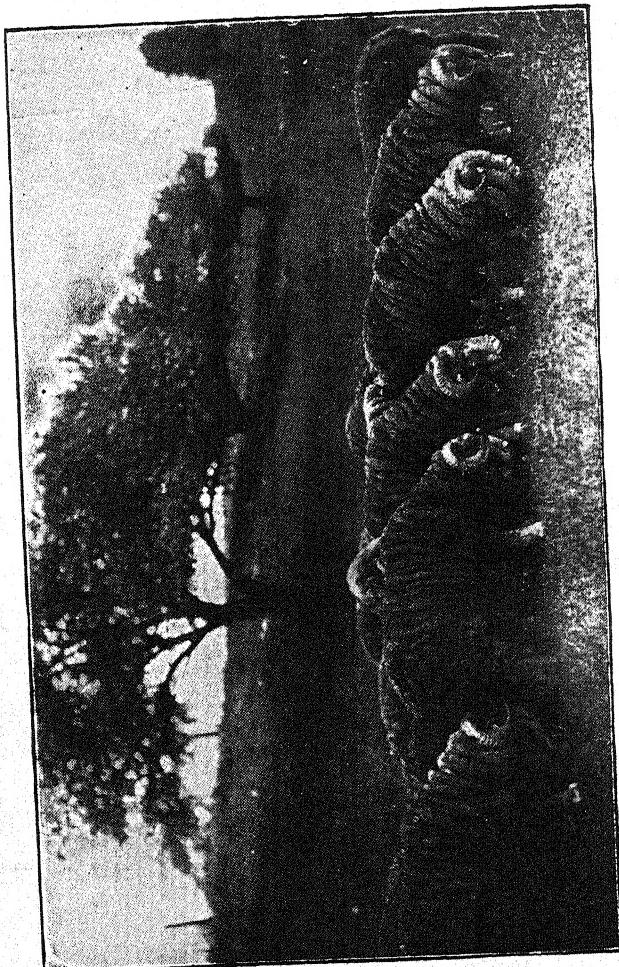
Today, the three types of Merinos to be found in Australia tend toward plain bodies and heavy necks. The fleece is high in yield of clean wool, the finer fleeces going as high as 70% clean yield, while medium and robust wools range from 42% to 52%. The staple is of good length, with the robust types the longest, being from three to four inches or more long, while the fine type, being the shortest, runs from two and one-half to three and one-half inches in length. Between 80% and 90% of the Australian wool clip will run to staple wool as compared with less than 50% of the American clip. The average fleece weight of the entire country runs from eight to nine pounds, while large, well bred studs of the robust or medium wool types may run from twelve to fourteen pounds of wool.

The Merino in South Africa

The Merino was early introduced into South Africa but little appreciation of them was shown. It was not until after the middle of the 19th century that much interest was expressed in improving the quality of the sheep to be found there.

About 1875 importations of Merinos from Rambouillet and Germany were made. About 1900 heavy importations of Merinos and Rambouillets were made from the United States. These sheep failed to produce the quality of wool which was desired by the mill manufacturers. In 1904 The Bradford, England, Chamber of Commerce, the leading wool manufacturing center of England wrote to the South African Department of Agricul-

BREEDS OF SHEEP



There A Type Merino rams were developed primarily for a heavy production of high quality wool. This was before rayon and other artificial textile fibers were developed. Rams of this type have made an authenticated production of almost 60 pounds of grease wool in one year's time. This type of rams have lost much of their former high economic value.

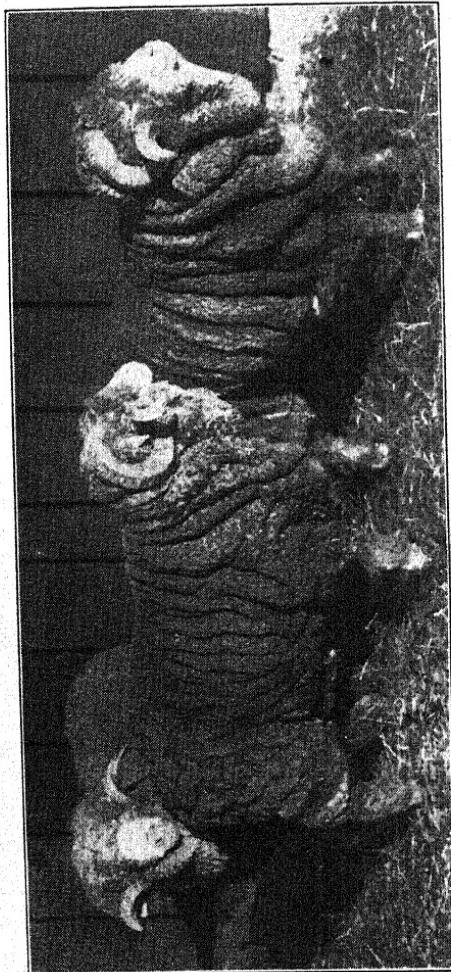
ture, "Farmers in South Africa are distinctly asked to keep clear of the Vermont (American) strain. It must be borne in mind that the catalogs in London always bore the mark "free from Vermont strain" and such clips always sold with more confidence in consequence.

As a result of this attitude of the English wool trade, the South African market was largely lost to the American sheep men, just as earlier he lost the Australian one, and Tasmania and Australia furnished the stud rams for South Africa until the recent embargo in Australia against the export of stud Merino sheep stopped the trade. The improvement is now being carried on through selections by the flockmasters of the country within their own studs. A great improvement has been made in the flocks during the past thirty years and the clip averages about seven and one-half pounds per head of fine quality wool, but not overly long in staple.



These C Type, or Delaine-Merino, yearling rams have played an important part in our sheep and wool production, as they were bred for both high quality wool and market lamb production.

BREEDS OF SHEEP



Half a century ago a great industry was built up in Ohio, Western Pennsylvania and the Panhandle of West Virginia in the production of B Type high quality wool and Merinos, which were shipped to the range states in carload lots and played an important part in building up our range wool producing industry.

The Merinos in the United States

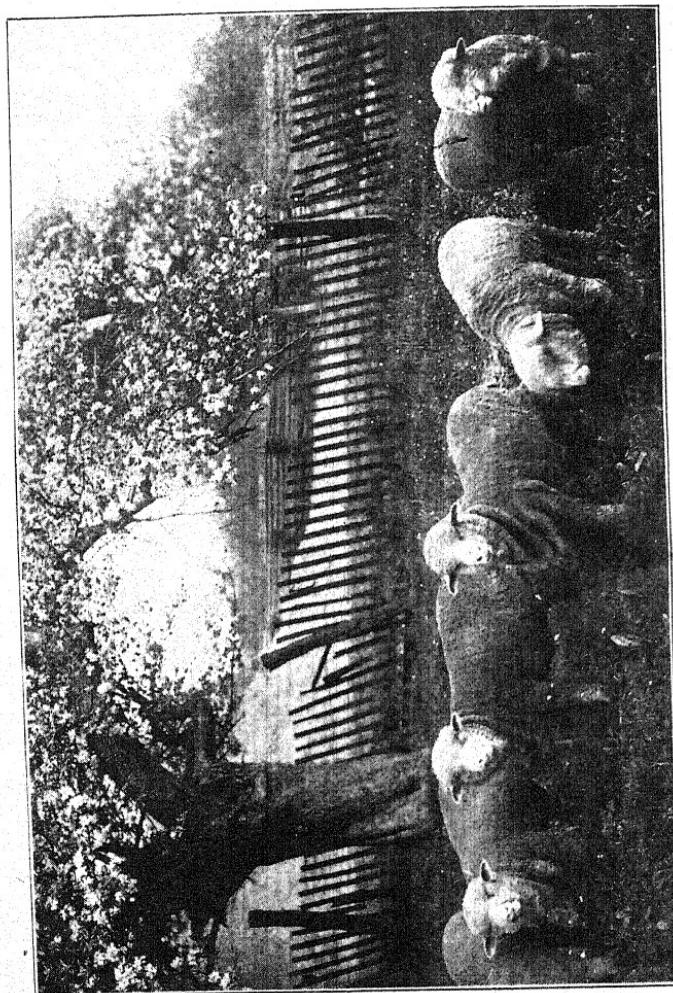
The first Merino coming into the United States was a ram which in 1801 was sent to Mr. Dupont of Delaware who used him on grade ewes with excellent results. The same year Seth Adams of Massachusetts bought a ram and a ewe. In 1807 he moved to Zanesville, Ohio, taking some twenty to thirty head with him. This flock worked a great improvement in the Middle West, but its blood was finally lost and no trace of it remains today.

In 1808 Mr. Livingston of New York sent four sheep from the French Government flock at Chalons and a ram, later from the Rambouillet flock.



These coming yearling Delaine rams were formerly produced in large numbers in sections of Ohio. As they grew and developed they frequently lost many of their wrinkles and folds and became smoother.

BREEDS OF SHEEP



These distinctly C Type Delaine ewes are typical of the many thousands of flocks of such sheep found in eastern and southeastern Ohio.

In 1808 and 1809 Mr. Jarvis, Consul at Lisbon, made importations from Spain totaling some 3850 head. Colonel Humphreys also imported a large number and in the years 1810 and 1811 some 19,651 head more were imported into the country. Prices for these sheep ruled very high and everybody was anxious to secure some foundation blood.

Demand exceeded importations and many sheep of inferior quality were sold during the boom.



These smooth Delaine-Merino rams were of a type very popular in the rougher sections of Texas where many Ohio Delaines were used to build an important wool growing industry.

By 1814, prices had fallen and as the best sheep had been taken out of Spain, there was little inducement for further importations. However, more Merinos came into the United States than were sent to all other countries combined. They were distributed from Maine on the north to Georgia on the south. Some of the best sheep were taken to Vermont, and in the hands of skilled breeders these flocks soon became noted as the best in the country and Vermont soon assumed the leadership in the production of pure bred Merinos, a position the State held for many years. Vermont sheep were widely used all over the United States. From Middlebury, Vermont, from 1877 to

1881, 6777 Merinos were shipped in carload lots, to say nothing of less than car lot shipments. Ohio took of this number, 2284, Texas 1728, Michigan 1230, Kansas 668, Pennsylvania 303, Missouri 268, Maine 106, Colorado 134, Illinois 56. Today not a single pure bred flock of any size can be found in these sections.

It was in Vermont that the craze for wrinkles, density of fleece and grease originated. Breeders began to intensify their flocks in this direction until finally some of them bred their sheep to the place where constitution, carcass and even wool had been bred out of their flocks. The writer remembers one ram he saw standing out in the sun on a hot day with the oil literally



*A champion Delaine ewe at the Ohio State Fair,
a fair which for many years held the world's largest and
highest developed fine wool sheep show.*

dripping out of his fleece. This ram would not look at a ewe, which was a blessing, although his owner bewailed the fact that he could not get him to breed as he had so heavy a fleece. One of the most noted flocks in its day, in Vermont, the Burwell flock, was bred to such an extreme that finally the sheep were fed to the hogs.

The eminent authority of his day on Merinos, Mr. Henry S. Randall, was carried off in this movement and in speaking of the Jarvis flock stated, that while the quality of the fleece had been improved, he felt that Mr. Jarvis was too willing to please the manufacturers and in consequence had bred the folds and oil out of his sheep to too great an extent.

Delaine Merinos

While Vermont was concentrating on the production of a heavy type Merino, a different type was being developed in the "Panhandle" section, or Western Pennsylvania, Eastern Ohio and Northern West Virginia.

The first of these came into Butler County, Pa., in 1804 and were said to be of Humphreys blood. This flock was removed to Indiana in 1814.

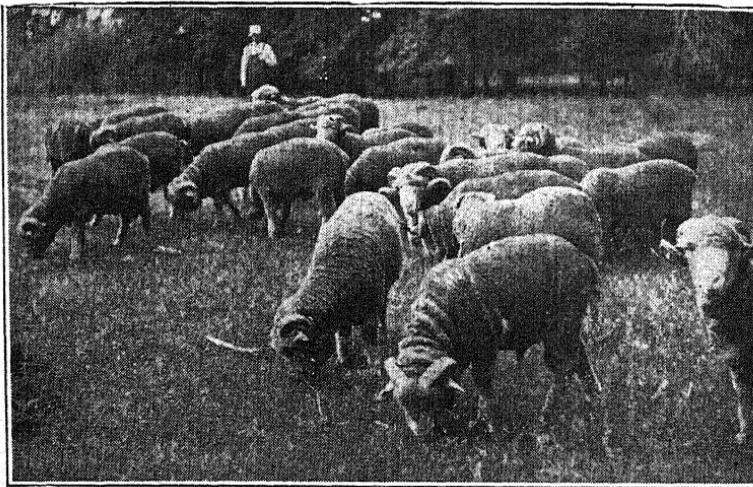
In 1810 and 1811, the western migration was under way and in one month in 1811, six hundred head of Merino sheep were reported as passing through one town, going to Ohio.

The most famous flock to be established in this region was that of Wm. R. Dickinson of Steubenville, O. Mr. Dickinson was a partner with Mr. Wells in operating a woolen mill so his breeding operations were conducted along practical lines, breeding for staple and yield of wool. The early history of this flock is not authentically established. Mr. Dickinson stated that the foundation came from a Mr. Caldwell of New Jersey, who purchased the best of the Merinos imported from Spain and selected top rams from the best flocks in Saxony. In this event,

the Dickinson flock, later to be established as a separate family known as Dickinson Delaines, was a combination of the various Spanish Cabanas and Saxony. It became noted for the quality and quantity of its wool and good carcass, and from it came other families of Merinos, the most prominent of which was the "Black Top."

By 1825 the flock consisted of 2000 head, admitted to be the equal of any in the United States, but in 1830 financial reverses forced a dispersion. It is claimed that all the best sheep had been removed from the flock prior to the sale by Mr. Hildebrandt, the shepherd. This Hildebrandt flock was the fountain head of the Dickinson family of Delaine Merinos.

In the Special Report of the Sheep Industry of the United States, issued by the U. S. Department of Agriculture, Dr. Salmon



Yearling Black Top Merino rams. This breed played an important part in the development of the wool industry of the state of Michigan.

states, "The fact is established, however, by numerous authorities, that Mr. Dickinson did, in the later years of his breeding, largely use Saxon blood, and hence the Saxon Merino cross became the predominant stock of the country through which his sheep were disseminated. Mr. Dickinson, having infused into the minds of those who purchased from him the importance of fine wool, the great ambition of wool growers was to have the finest fiber, regardless, in a great measure of weight of fleece. Hence, the stock of the country became so very much refined that many flocks averaged but two pounds to the fleece. The French Merino was then introduced to increase weight of fleece, and eventually almost all of the good flocks of eastern Ohio, western Pennsylvania and West Virginia, originally based on the justly celebrated flocks of Wells and Dickinson, had been crossed, recrossed and crossed again with Saxon and almost everything else, until it was doubted very much whether in 1861 there was a pure bred Wells and Dickinson sheep in the United States, or in the world."

As previously stated, the "Black Top" family was developed from a Dickinson foundation. This family was the results of the efforts of Wm. Berry to produce a sheep of large size and good form and fleece. The flock was carried on through successive generations of the family along the same lines, breeding for a clear white fleece of good length of staple on a large, well formed mutton carcass. To the Berrys may be given the credit of being the first to emphasize carcass in fine wool sheep.

While the Black Top was being developed, another group of Washington County, Pa., sheep men were interesting themselves with a portion of the Meade importation of Infantado sheep, made in 1811. This flock had been driven into Washington County about 1821 and were referred to as always being well fed and fat, and soon developed into large sheep. Sheep

from the Dickinson flock were also used and blended with the blood of the Meade sheep.

One of the most noted flocks of this type was that of McClelland Bros. who, about 1857, crossed with a Vermont ram of smooth carcass and followed this by using another ram of similar breeding from the Randall flock of New York. In 1861 a third infusion of Vermont blood was made through the use of the ram Victor from the Beall flock of West Virginia. This ram worked such an improvement that an association was formed to register the progeny and was named Victor Beall Delaine Merino Register, later to be changed to the National Merino Register.

Later, in the same region, another register was started known as the Standard Delaine Merino Association, which admitted the blood of all sheep of Merino origin, regardless of ancestry. By the late seventies, these three families were producing sheep weighing 110 to 130 pounds for the ewes, and 180 pounds for the rams, shearing from ten to twenty-five pounds of wool, whose high quality, at least in part, was due to Saxony blood.

So far we have traced the development of two distinct types of Merinos. The Vermont, or heavy hided, short, dense, oily fleeced type, and the Delaine, or plain bodied, long stapled type making some effort toward mutton production. Later, a third or intermediate type was to be developed, but before going into its history it would be well to consider the further importations into the U. S. of Merino sheep from countries other than Spain.

The Saxony Merino

The Saxony Merino was first imported into the United States in 1822. This importation consisted of four sheep. Owing to the demand for wools of super fineness, many importa-

tions followed closely after this initial one. In size, the Saxony Merinos were smaller than the Spanish, of more delicate constitution and lighter build. The fleece weight averaged one and one-half to two pounds for the ewes and two to three pounds for the rams, ranging from an inch to an inch and a half in length. The oil was of great brilliance and free flowing.

It is a regrettable fact that most of the Saxon sheep brought over in these importations were of an inferior quality, many were not even pure bred and American buyers not knowing what they were getting, mixed those that were of pure breeding with those of mixed origin. It has been stated that many of the Saxon sheep were diseased and of weak constitution. This condition might, in part, account for fineness of fleece, as it is a well known fact that inability on the part of an animal to properly nourish the wool results in a much finer fiber, or a "hunger fineness" as it is sometimes called.

From 1824 to 1828 some 34,000 Saxony sheep were imported. They were widely used for cross breeding on Spanish Merino flocks and only a very few but had some infusion of their blood.

Their delicate constitution, light fleece weight and a falling wool market combined to bring the breed into disrepute and like the Vermont blood in Australia, few indeed would acknowledge any Saxony blood in their flocks. Had the rebuilding of the Spanish Merino flocks however, been confined to those who never had made the Saxon cross, it would have taken thirty or forty years to have worked back to the original numbers at the time the Saxons were introduced. A bad memory is at times a most convenient thing.

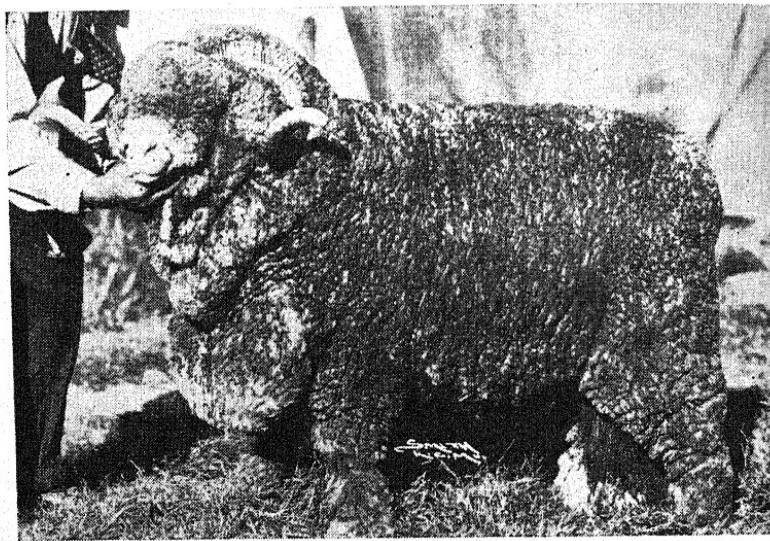
The Rambouillet in the United States

The Saxony sheep having reduced the size of the Merino, it was only natural that steps would be taken to correct this

condition. In 1839 a Mr. Collins of Connecticut visited the French stud at Rambouillet and was impressed with the size and quality of the Merinos he found there. He purchased some twenty head of ewes and two rams that were being sold on account of their age and brought them home with him.

These sheep were described as having "loose skins, full of folds, especially around the neck and below it on the shoulders, and not infrequently over the whole body, the wool thickly covering the surface of the forehead, cheeks and legs clear down to the hoofs."

This description of this flock is rather significant. It was shortly after this date that the Vermont Merino began to assume



A champion Rambouillet ram, a breed noted for the production of a heavy, high quality fleece, and a smooth lamb that sells well on the market.

such characteristics as distinguished the Rambouillet. This flock itself was shortly sold to go into Vermont and shortly after, a second importation found its way into that state. Mr. S. W. Jewett of Vermont is credited with having brought over \$50,000 worth of Rambouillets into the State. He afterwards moved to California, taking his flock with him. Concerning the extent to which Rambouillet blood had been introduced into the Merino flocks in Vermont he said in an article published in a very early edition of the 'American Sheep Breeder' that to his positive knowledge, there was not a pure bred flock of Merinos in Vermont but that contained an infusion of Rambouillet blood through certain rams and he would prove his statement in event it was challenged.

This statement of Mr. Jewett is given, not to cast any reflection on the breeding operations of those in the Merino business. It merely reflects the intense feeling that existed at that time, over the relative merits of the various Merino families. An attitude, not peculiar to American breeders alone, as has been pointed out in the Australian situation. To one not personally concerned, the whole controversy seemed useless. The breeders of American Merinos admitted that the various Merino families of Spain were freely outcrossed in developing their strain. No question was ever raised as to the origin of the Saxony, Silesian or Rambouillet sheep from the same original Spanish foundation. The bitter controversy over "purity of blood" which, after all, resolved itself into purity of certain family strains, did much to injure the breed, and time and effort devoted to searching records for evidence to prove or disprove contentions of breeders, could have better served the breed had it been devoted to united effort in promoting it, or developing it to the highest possible plane of utility.

Let us return to the early history of the Rambouillet. New York introduced the breed in that state in 1848 when Mr. John D. Patterson of Westfield in the western part of the state made an importation in that year. He followed this up each year for some time and his flock was said to have been of very high quality.

In 1862, Mr. Patterson stated that his yearling ewes weighed ninety to one hundred and thirty pounds each and grown ewes from one hundred and thirty to one hundred and seventy pounds each, with some over two hundred pounds. The ewe flock averaged over fifteen pounds of wool, some shearing over twenty pounds. The rams weighed, as yearlings, from one hundred and twenty to one hundred and eighty pounds and adult rams one hundred and eighty pounds to two hundred and fifty pounds, with weights of over three hundred pounds in rams of exceptional size. Ram lambs are reported as weighing up to one hundred and twenty pounds at seven months of age. The rams sheared eighteen to twenty-four pounds of wool, with some beyond that figure. The fleece was described as light colored on the top, due to the oil being readily washed out of the wool. In fineness it compared favorably with the American Merino wool and had a higher yield of clean wool than the latter.

Mr. Patterson is said to have been a man of the best reputation and reliability. It would be of interest to know how many present day flocks of Rambouillets could equal or excel this flock of seventy-five years ago.

As was the case with the Jewett flock of Vermont, the Patterson flock was removed to California and dispersed. The rams selling to \$1500 and ewes averaging \$320 per head.

Somewhat later Mr. Markham established a flock in New York which became famous and was the source of blood that worked a decided improvement in the breed.

The Rambouillet however, was destined to achieve its greatest popularity further west. Ohio and Michigan became centers of breeding for the 'Elephantine Merino' as it was termed. In Michigan, public shearings were held and in 1890 we note the ram Ontario weighing 253 pounds, shearing a 24 pound, 5 ounce fleece of five inch staple, 366 days growth. Ewes ran to an average of eight pounds of four inch staple wool. Thos. Wyckoff had a yearling ram weighing 176 pounds, with a five inch staple of wool. Compared with the staple produced on modern Rambouillets, these sheep produced approximately twice the length generally found today. Interbreeding between Rambouillets and Merinos was extensively practiced in Michigan with varying degrees of success. Density of fleece was increased in the Rambouillet with a loss in length of staple. The greatest objection was the lack of uniformity in the offspring in succeeding generations and possibly the reluctance of breeders to weed out all animals not coming up to a certain standard. The introduction of Rambouillets from the flock of Baron Von Homeyer of Prussia into the Michigan flocks proved very advantageous and stud rams in large numbers were sent West to the newly developed range industry.

In Ohio a number of breeders in Hardin and adjacent counties formed the celebrated Arlington Colony and from here came many fine specimens of the breed. As in Michigan, the use of German Rambouillets was resorted to with the blood coming from the flock of M. Steiger. The Steiger sheep were smaller than the Von Homeyer ones, but were noted from their excellent quality of fleece, due to the Saxony foundation upon which the flock was originally built.

Following the course of sheep empire, the Rambouillet moved on westward out of Ohio and Michigan as breeding centers, and the large stud flocks of the breed are now to be found



Utah is one of the leading Rambouillet states. These three yearling Rambouillet ewes are of a type ideal for wool and lamb production in the intermountain regions of the United States.

in the range states and on the Pacific Coast. The Rambouillet ewe has been the basis of the range sheep industry and will doubtless continue popular there for some time to come.

The Silesian Merino in the U. S.

This family of Merinos was developed in Austria and resulted from crossing Saxony rams on Negretti and Electoral Spanish ewes. Attention was paid to securing a large sheep carrying a heavy fleece of wool with as much quality as possible.

The breed was brought into America by Mr. Campbell of Vermont and other small importations followed, but the breed never attained any prominence and was doubtless absorbed by the American Merino or Rambouillet.

As previously mentioned, an intermediate type of Merino was developed between the extreme 'Vermont' and the quite plain 'Delaine' types. Ohio was largely instrumental in breeding this type and they were called 'Ohio Merinos'. This strain carried a heavy neck, body generally plain with a fold behind the fore leg, and a fold or two on the flank, and some on the hips, and a small fold, or rosette around the tail head. The fleece was denser than the Delaine, but not so long. The staple was bold and distinct in crimp but not as fine as the Vermont type. The form was good and the size comparable with that of the Delaine. This type was produced largely, by crossing Vermont rams on Delaine ewes, although some were of straight Vermont breeding selected from the plainer marked flocks.

In 1906 a number of Merino breeders met at Columbus, Ohio to attempt a consolidation of the some twenty-seven different associations recording Merino sheep.

In order to designate more accurately, the three types of Merinos it was decided to use the first three letters of the alphabet as arbitrary terms, rather than any longer to use misleading names. The extreme wrinkly sheep was termed A type

Merino; the intermediate or 'Ohio' type, was called the B type Merino and the various Delaine families, C type Merino. These terms are the ones generally in use today.

During the past twenty-five years, there has been a gradual but steady decrease in the number of A type Merinos. As in Australia this type has apparently little if any justification for continued existence in modern sheep husbandry. The wool is discounted on account of short, heavy shrinking fleeces and the carcass value is practically nothing.

The continued injection of this heavy blood into the flocks of plain bodied or C Type Merinos to increase density, and weight of fleece has also resulted in the production of many heavy hided lambs in commercial flocks using C type rams. Such lambs are discounted on arrival at the markets and many commercial breeders, in consequence, are turning to other breeds. It would be unfortunate if breeders of stud flock Merinos continue to permit this situation to continue and not make every effort to produce a type of sheep acceptable to the commercial flocks. The Merino has many good qualities; qualities, which if emphasized, would insure its continued popularity. For the sake of the sheep industry of the country, as well as the investment at stake of those in the business, this should be done.



CHAPTER III

The Leicester

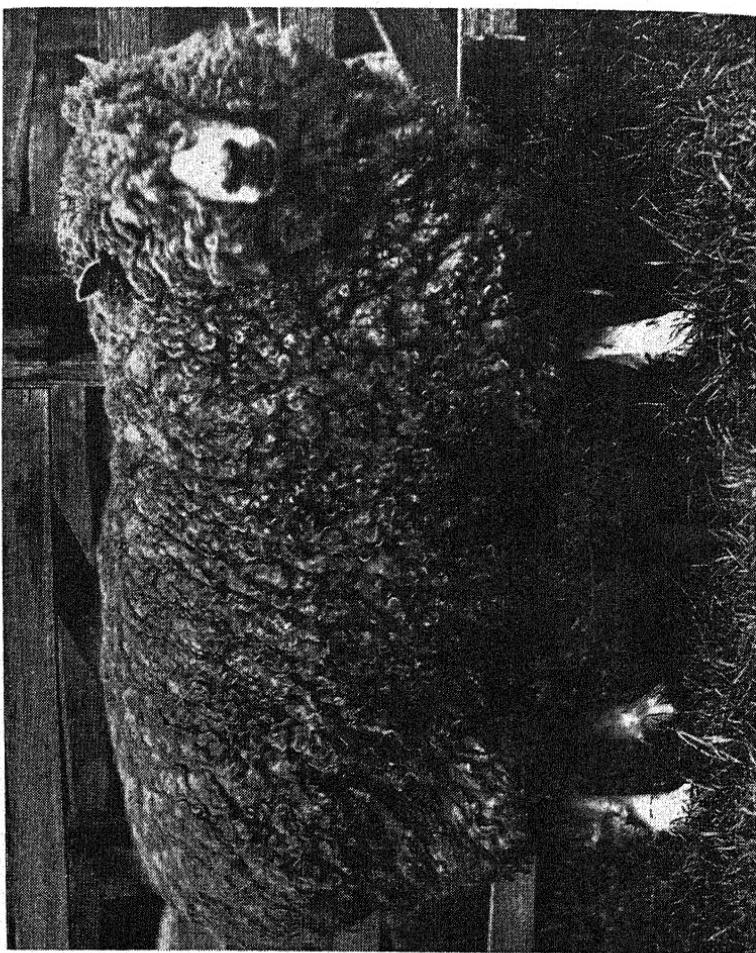
THE LEICESTER IS A BREED seldom found in the United States, but it is very popular in parts of Canada, particularly in Quebec. It occupies, however, a very important position in the development of many of our breeds and is, therefore, deserving of special mention.

Of the original sheep to be found in the territory in and about Leicestershire, Markham in 1668 says, "It beareth a large boned sheep, of the best shape and deepest staple; chiefly they be pasture sheep, yet is their wool coarser than that of Cotswold."

Youatt, in describing them in 1837 says, "This was a large, heavy, coarse wooled breed, common to most of the midland counties — It had a white face, no horns, it was long and thin in the carcass, flat sided with large bones, thick, rough and white legs — It was covered with wool from ten to fifteen inches in length, coarse in quality and weighing from eight to thirteen pounds. The pelt and offal were thick and coarse. The animal was a slow feeder and the flesh was coarse grained and with little flavor."

About 1755 Robert Bakewell of Dishley commenced the improvement of this breed. The date is one of great importance to the sheep industry of the world because up to this time little effort had been made of a constructive nature to improve sheep. The efforts of this master breeder and his successes were later to prove an inspiration to others, not only in the sheep business, but to the early improvers of cattle as well.

The exact formula used by Bakewell in his work is not definitely known. It is said of him that he was secretive in his nature, and left but little account of his work.



English type Leicester ewe. This ewe was champion ewe in New Zealand.

Enough is known, however, to form some opinion of his methods. It is a known fact that his aim was to develop an early maturing fine boned sheep that would flesh well and kill to the best advantage. He was not concerned about the fleece and it has been stated that on one occasion, he used a black ram because he was particularly pleasing in his form.

Bakewell's observations were to the effect that sheep extreme in size, or carrying excessive weight of wool were slow in developing and wasty either in bone or offal or hide in dressing; that sheep of moderate size required less to keep and a greater number per acre could be handled than large coarse ones, and that they were more apt to be of good mutton form.

Acting on these observations, he began selecting sheep showing ability to fatten readily, that were of good form and smaller than the average size. These he carefully mated together and systematically inbred those whose offspring proved to nearest meet his requirements. There is no evidence that any other breed was used in developing his flock and it is generally accepted that the work was carried on through selection first, and then inbreeding.

After about twenty years of work, Mr. Bakewell's flock began to be recognized for its outstanding qualities and his stock was in keen demand. He early started the practice of renting his rams for the season rather than selling them. This practice enabled him to retain for his own use any ram that proved of exceptional merit. This practice is still very common in England among some of the best breeders of sheep. His first ram was rented for \$4.00 for the season and later in life he rented one ram for \$4000.00 and retained the privilege of one third of his services. This will afford some idea of the esteem in which the new Leicester was held.

It was said of them that they would yield a greater quantity of meat for feed consumed than any other breed of that time, and that when they were well fattened, the fat was interspersed with the lean so that it looked and tasted like a "mass of luscious fat," evidently appealing to the palates of the English at that time. It was also claimed that the percentage of bone and offal was less, and that no other breed would mature as early. Thus, in a comparatively short time, Bakewell's objectives were realized. Later breeders started to improve the fleece, with good results, although they never reached the weights of some of the other long wool breeds.

In describing the breed as it exists today, there is not a great deal of difference between it and the Lincoln and Cotswold. It is somewhat smaller, and carries a shorter, finer fleece of less weight. The face is white, lips and nostrils black, black spots on face and ears somewhat common. The head is bare except for a tuft of wool between the ears. The heart girth is great, the back wide and straight and the body deep, quarters well developed, bone fine and legs straight and well set on.

The first pure bred flocks of Leicesters in the United States were owned by a Captain Farmer of New Jersey. He sold rams at \$1000 each but generally rented them at \$150 to \$200 for the season. This flock was for some time the only one in the country and was widely distributed over the sheep growing areas.

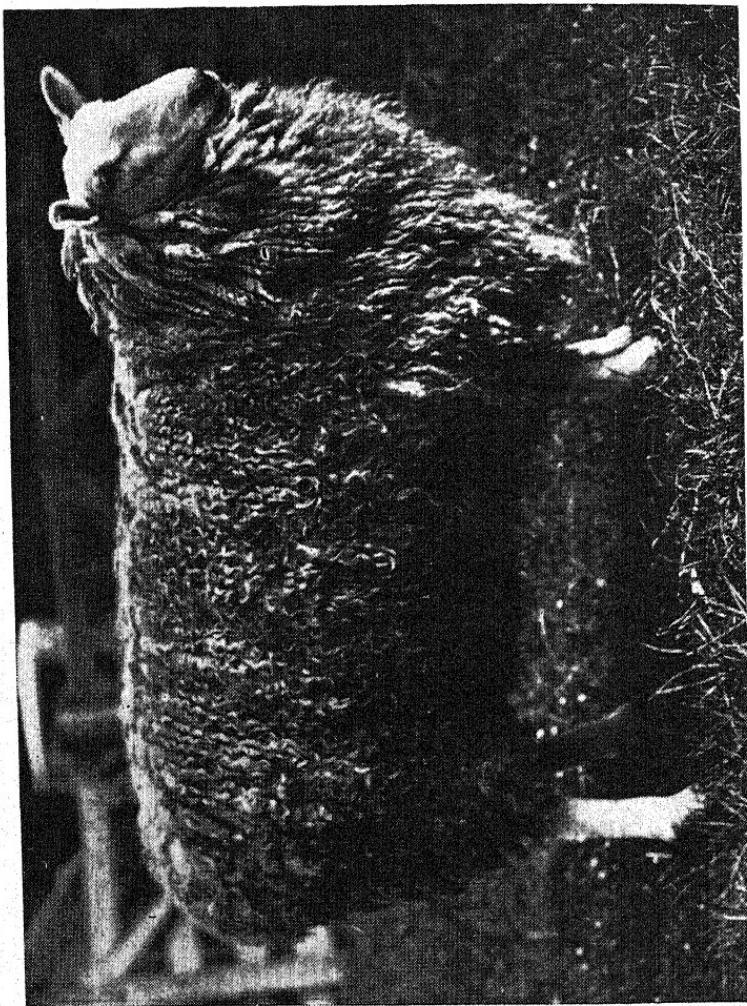
In New York the breed was introduced through a smuggled shipment prior to 1812. The weight of one of these, a ram, is given at 180 pounds, and of two ewes at 171 and 161 pounds, respectively. The climate of most of the sheep sections of the United States, or, more likely, the methods of handling the sheep, was unfavorable to the breed and they

were never as popular as the Cotswolds and Lincolns.

The greatest contribution of the Leicester to the sheep industry however, is the improvement which has been brought about in other breeds through the use of its blood. The Border Leicester, the Cotswold, the Lincoln, the Romney, the Devon Longwool, the Wensleydale, and the Ryeland in England are all said to have had an infusion of Leicester blood in their early days. Later the Cheviot, the Corriedale and in France, the Dishley-Merino, now called Ile' de France, were, to a greater or less extent, the recipient of direct or remote crosses of Leicesters.

A second contribution was that of calling to the attention of those engaged in pure bred live stock breeding, the possibilities for improvement in the various breeds, and the procedure to follow, and while the sheep Bakewell produced may not be as popular today as in times past, the breed has played a great part in sheep improvement of flocks all over the world and has well earned its position in the great triumvirate of foundation blood: the Merino, the Southdown and the Leicester.

The greatest story of all, in connection with the Leicester, is the story of a man who first applied principles of breeding to livestock that have been found to be the surest yet devised to bring about desired results. Prof. Low says, "The formation of the new Leicester breed of sheep may be said to form an epoch in the economical history of the domestic animals, and may confer distinction on the individual who had the talent to conceive and the fortitude to perfect the design. The result was not only the creation of a breed by art, but the establishment of principles which are of universal application in the production of animals for human food."



This Border Leicester ewe, a typical specimen of the breed, was champion at the New Zealand Royal Show.

CHAPTER IV

Other Longwool Breeds

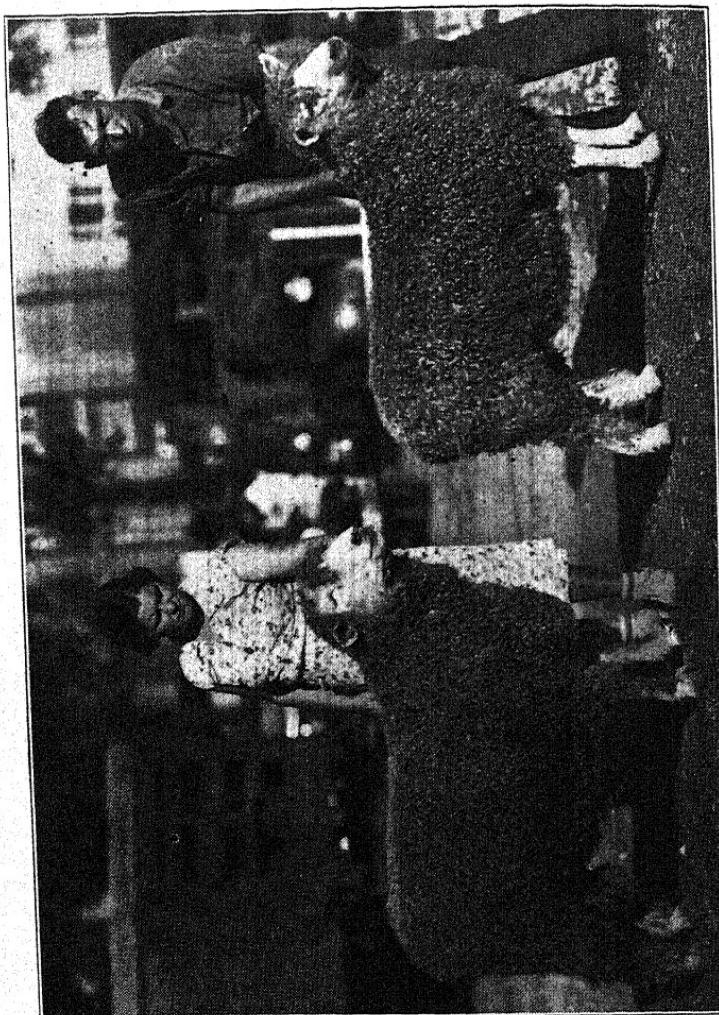
FROM EARLY HISTORY the flat marshy country of Lincolnshire was inhabited by a long wool breed of sheep. This breed was the largest of England, but strange to say, were bred almost entirely for their fleeces. Ellis, in his "Shepherd's Guide," refers to them as the longest-legged, largest carcassed of all breeds and as carrying the heaviest fleece. They were hornless, had long thin bodies, weak backs, large bones and grew a fleece ten to eighteen inches in length, weighing from eight to fourteen pounds. The face and legs were white and the meat coarse grained and lacking in quality.

The Lincoln was a grazing breed, being run on marsh land that had been continuously carrying sheep for over five hundred years. Like the Leicester it carried excessive fat when fed for market and there is a record of a two year old Lincoln wether being butchered in 1827 at Lincoln that dressed 261 pounds with *nine inches of solid fat on the top of his ribs!*

After the introduction of Leicester blood, using the Leicester ram on the Lincoln ewe, the form was much improved and the fleece retaining most of its weight and quality.

As has always been the case, there was a rather keen rivalry developed between those who refused to accept this cross and those who did. As an illustration of the length to which this was carried, Mr. Bakewell asked a Lincoln breeder, Mr. Chaplin, to see his rams. Mr. Chaplin refused to do so and later Mr. Bakewell went to see them while Mr. Chaplin

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Typical American specimens of the Lincoln breed. These were the champion ram and ewe at the Illinois State Fair.

was away. This so angered Mr. Chaplin that he wrote Mr. Bakewell as follows: "I did not expect to hear of your meanly sneaking into my pastures, driving my sheep into the fold and examining them."

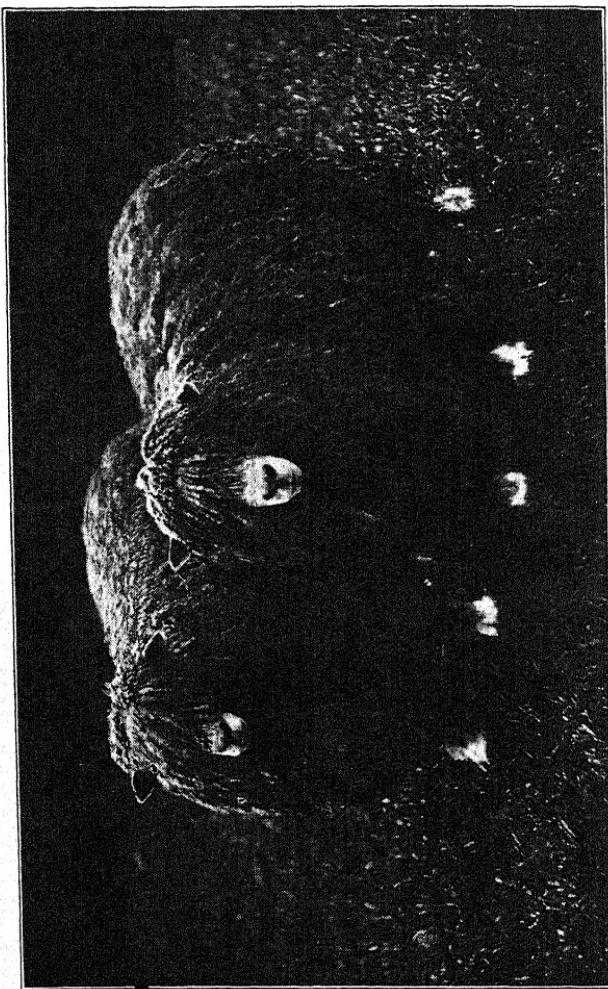
Eventually, those breeding the old type Lincoln were forced to give way to the newer one and the modern Lincoln is a cross of Lincoln and Leicester.

The Lincoln has had a wide distribution. In South America its blood is widely used. In New Zealand the type has been modified, being smaller than is found elsewhere, a heavy bone and producing fleeces of great weight and luster. They are lacking somewhat in fleshing qualities and have not held their own with some other breeds. Its use, as in Australia, is very largely confined to cross breeding on Merino or Romney ewes.

In the United States, the Lincoln never, in early days, attained the popularity of the Leicester or Cotswold. Early importations were few and they were mostly crossed with the other long wool breeds. More recently, Lincoln rams have been used for crossing on range ewes to secure a better ewe flock. In general appearance there is little to distinguish it from the Cotswold. The Lincoln fleece, however, is somewhat coarser and heavier than the former. Both breeds call for the same general type and fleece characteristics and the differences are such as would demand rather close observation and are minor in character.

The Cotswolds

The Lincoln, as we have seen, was a sheep of marsh lands. The Cotswolds, on the contrary, were hill sheep. The name originated from the habit of housing them at night or during the winter in cots or sheds and grazing them on the hills or wolds.



Cotswold yearling rams. This breed was formerly used to a considerable extent for crossing on fine wool bred range ewes to improve the mutton producing qualities of the range sheep.

From early days the breed was greatly esteemed in England on account of its fleece and in 1464 a shipment of Cotswolds was made to Spain to improve the fleece of the sheep of that country. From this, some writers claim that Cotswolds were used to improve the Merino. Every physical evidence is against such a statement and undoubtedly the cross was made on the stationary flocks of Churros and not with the migratory Transhumantes or Merino ewes.

At this time England was an exporter of wool and as early as 1390, around 47,000,000 pounds of wool were sent out of the country. The great bulk of this wool was from the long wool breeds, as they were producing some 7 to 8 pounds on an average as compared with 2 pounds for the Down breeds.

The Cotswold of early days was very comparable to the early Lincoln in form, size and fleece. Here is something for those to explain who claim environment is the important factor in determining breed characteristics.

As with the Lincoln, the Cotswold was crossed with the Leicester to its advantage. The modern type corresponds very closely to the description of the Leicester except for the head. It is head character more than any other thing that distinguishes the Lincoln and Cotswold. The latter has a forelock extending well down over the face and the face may carry spots of grey, while that of the Lincoln is white. The head is somewhat shorter and wider than the Lincoln. These points, with the slight difference in the character of the fleece constitute the main differences in the breeds. While the Lincoln was the popular long wool breed in the southern hemisphere, the Cotswold found more favor in the United States, especially before the Down breeds were generally introduced.

The breed was first imported about 1830 by Christopher Whitehead of Preble Co., Ohio. This flock was removed to Indiana a year or two later where it was kept intact for over three quarters of a century. In its early history a cross bred Southdown-Merino ram was used and wool samples from the flock that are over 65 years old were inspected by the writer. These samples show great length, combined with the softness, and would grade about 48's to 50's or on the low edge of quarter blood.

In 1840 a considerable number were brought into the country, said to have been top specimens of the breed. The demand rapidly grew and the breed soon spread from Maine to Wisconsin. In the latter state they were largely used for crossing on Merino ewes, producing a very desirable lamb. One of the principal importers of Cotswolds in Wisconsin was George Harding of Waukesha, later to be followed by his son, Frank. From this flock came much foundation stock.

In Kentucky the Cotswold was a favorite for cross breeding on native Merino ewes and were considered the best breed for this purpose.

The gradual introduction of the Down breeds and the diminution of Merino flocks finally forced both Cotswolds and Lincolns into a secondary position and today they are fewer in numbers in the United States than any other of our modern breeds.

The Border Leicester

The Border Leicester is one of the newer of the long wool breeds, being started about 1802. Conflicting accounts are given as to its origin. Most of the breeders in England along the Scottish border claim it was built up from a foundation stock of Teeswater ewes, a long wool breed now practically extinct, and mated to Leicester rams. Others claim that

Cheviot blood was used in forming the breed and there is something in the general appearance of the breed to justify the latter contention.

It is said that the breed matures somewhat more slowly than the Leicester and is somewhat lighter in the fleece, but is better able to stand climatic extremes.

The breed never became popular in the United States or Canada. No pure bred flocks are on record from either of these countries. It has been used some on at least a part of the Cheviot flocks in past years to add to size and mutton conformation.

The Border Leicester is well thought of in New Zealand, about the only country except its native home, where it has occupied any major position. In the section where it was developed, it is still very highly thought of and considered the most valuable breed.

The Wensleydale

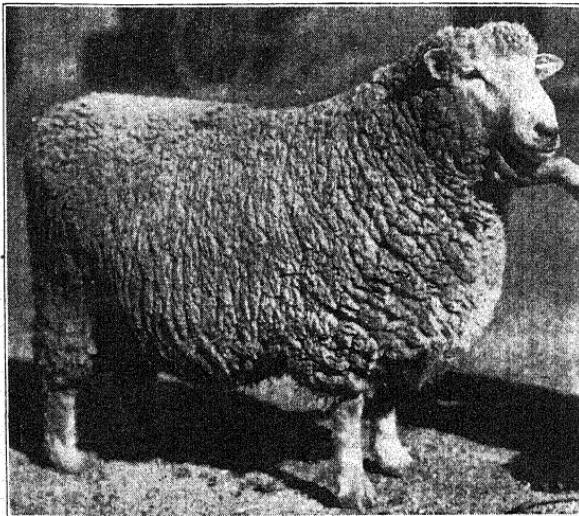
This breed has a rather limited distribution being found principally in Yorkshire. It is a long wool breed comparable in some respects to the Lincoln and Cotswold but having one distinctive feature which makes it worth mentioning from a breeding standpoint, that is a blue face and ear with often the entire skin of the body being blue in color. This is said to have resulted from the use of a ram of great quality with a blue face many years ago. His progeny were a decided improvement over anything that had yet appeared in the breed and were extensively used. They continued to breed the unusual color and breeders have cultivated it, but recently there has been an effort on the part of wool buyers to induce the flock owners to breed away from the blue skin, owing to black fibers in the fleece. However the rams are used extensively on Black-Faced Highland ewes and the dark blue ones breed

black faced lambs on this cross and this is desirable to the feeders. It is questionable whether any color change will be made. The breed illustrates the possibilities of fixing characteristics through the use of "sports" or breed mutations.

The Romney

The Romney's native home was the marsh land of Kent. This tract of land was recovered from the sea at an early period of English history and consists mostly of rich alluvial soil kept in permanent pasture.

The original breed of the country was a large, long wooled sheep, rather long and narrow, growing a heavy fleece of wool uneven in character. Two features made the breed especially desirable for this country; first, its ability to assim-



A Romney ram, a breed which is growing in popularity on the West Coast. It combines a high quality fleece with a good mutton carcass.

ilate the rank luxuriant growth of grass; second, a practical immunity to footrot and liver fluke. It is altogether likely that these characteristics were gradually acquired over a long period of time through natural selection by the survival of the fittest. Coarse feed requires a larger stomach and a strong digestive tract. Some sheep acquired an immunity to footrot and the fluke and, eventually, they became fixed characteristics of the breed.

An improvement in carcass and fleece was made through the use of Leicester rams. The amount of Leicester blood that could be used was limited as too much of it meant losing the very necessary features to which we have previously referred. The result was the evolution of a sheep rather distinctive from other long wool breeds. The fleece is from quarter to low quarter blood and carries a bold crimp. There is a tendency to coarseness on the britch and kempy fibers through the fleece. Careful breeders are watching these points and successfully overcoming them. The back is not as strong as the other long wool breeds but it excells in constitution.

For a long while the Romney was confined largely to the Kent marshes. In New Zealand on the North Island, climatic and grazing conditions caused its introduction there, the breed rapidly gained in favor and today outnumbers any other breed there. It is also extensively raised in the South Island.

The New Zealand type of Romney is regarded as the best. It is smaller than the English and carries a much better fleece. A description of the New Zealand Romney calls for a wide head well covered with wool on the poll; broad and masculine in appearance; black nose; neck strong and thick, well laid in on the shoulders; body, of a round shape, chest wide and deep, back straight, loin heavy; thigh, well let down and fully devel-

oped; bone large, legs short, feet black and good shape; and skin pink.

In Australia, considerable interest is to be found in Romneys, most of the sheep in the country coming over from New Zealand.

In the United States, importations of Romneys from New Zealand have been made in recent years, mostly for Pacific Coast flocks. On the west slopes the breed should do well. Romneys are also being used, so far in an experimental way on the Aleutian Islands, where some western sheep men are working on stocking some of these islands with sheep. So far the breed is well liked and may prove to be the solution to some of the troubles encountered in making the venture profitable.

It is not generally known, but Romneys were one of the first breeds to be brought into the United States, yet such seems to have been the case. A low neck of land near Boston was called "Romney Marsh" as early as 1650 and on it were run sheep. About the time sheep were brought in, immigrants from Kent, England came and it was doubtless the breed of their native area that they brought with them. The Romney did not appeal to the eastern sheep men as did some other breeds and it remained until a few years ago to see any concerted effort to popularize the breed and then as before mentioned, on the West Coast.

Other Long Wool Breeds

A few other long wool breeds are to be found in England but these are of minor importance and have never attained any wide distribution. Among these may be mentioned the Devon Longwool, South Devon and in Ireland, the Roscommon, as with the other long wool breeds, the Leicester was used in refining these breeds. In the main they are lacking

in refinement as compared to the better known long wool breeds, and are unknown in the United States. One breed, however, is worth more than passing mention, due, primarily to the conditions under which it is handled. That breed is the Black-Faced Highland.

The Black-Faced Highland

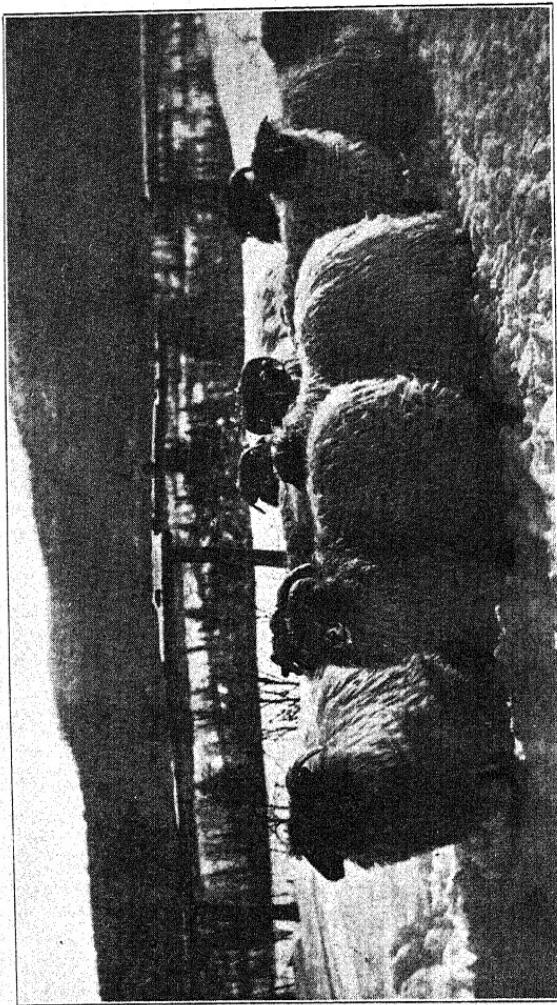
The origin of the breed is unknown. Youatt states that tradition credits its being introduced in the forest of Ettrick by a Scotch king, said to be James IV of Scotland, for the use of his family. The breed is said to be of foreign origin, but from what country is unknown, the most plausible theory being that they were washed ashore from a Spanish vessel sunk by Drake off the coast of Scotland.

The breed is a horned one with face and legs black, or black and white. The body is short and compact and of good form. The fleece is long, from 8 to 15 inches, and very coarse grading with the finer carpet wools. The interesting feature of the Black-Faced Highland is its extreme hardiness and ability to thrive under very adverse circumstances.

The Shetland

This breed is a very small one found on the Shetland Islands. It lives on seaweed and the sparse vegetation to be found there, and is noted for producing two types of wool in the same fleece, a coarse outer hair like coat and a very fine inner coat of wool. It is from this inner coat that the famed Shetland shawls are woven. Its small size, angular shape, and extremely light fleece has prevented its introduction elsewhere. It is nearer the wild form of sheep than any other breed. It varies in color from black to white and has from no horns to six in number. It is said to eat fish when other food sources fail.

BREEDS OF SHEEP



The Black-faced Highland is one of the hardiest breeds we have. It has never attained any prominence in the Americas and but few flocks are to be found. The wool is coarse and usually contains a considerable amount of black fiber.

CHAPTER V

The Southdown

THE SOUTHDOWN IS GENERALLY RECOGNIZED as the standard by which the comparative excellence of other breeds is judged. In view of its present position, a description of the breed in its early history is worthy of note. Youatt quotes one of the early improvers of the breed, Mr. Ellman, as saying: "This breed was formerly of a small size and far from possessing good shape, being long and thin in the neck, high on the shoulders, low behind, high on the loins, down on the rumps, the tail set on very low, perpendicular from the hip bones, sharp on the back, the ribs flat, not bowing, narrow in the forequarters, but good in the leg, although having big bone."

A careful study of the above description of the Southdown reveals it as a sheep decidedly lacking in those qualities which are considered necessary in a mutton breed. It again serves to show the possibilities of breeding, if intelligently carried out.

The origin of the Southdown, like that of the Merino, is not definitely known. It is stated that an active, short wooled breed of sheep are known to have ranged the chalk hills of England, known as the South Downs, from as early as the time of William the Conqueror. This part of England, comprising Sussex, Surrey, Berkshire and portions of Kent, consists of a range of chalky hills covered with short sweet grasses.

About 1780, a writer, in describing the sheep of this section speaks of them as having black faces, with a tuft of white wool on the top of the head and speckled or spotted legs, with the rams frequently showing horns. He further says that lambs with black spots, or entirely black, were a frequent occurrence. The wool was spoken of as short, harsh and brittle, but fine. Such is the picture of the Southdown when Mr. John Ellman started to work on it.

There has been some question as to whether or not this improvement was brought about entirely within the breed or through the use of outside blood. The claim is generally made that no outside blood was introduced. On the other hand, there is some evidence that an infusion of Merino has found its way into the breed without even the knowledge of the breeder. The Merino at the beginning of the 19th Century was a very popular breed in this section of England. In Hampshire it was stated that it was a common practice to cross Southdown rams on Merino ewes, producing a very profitable sheep.

Mr. Ellman for some time had a flock of Merinos as well as Southdowns and ran sheep in large numbers, carrying 1400 to 1500 head. An accidental cross might have been quite possible.

Dr. A. L. Barker, Prof. of Textile Industries, University of Leeds, is the authority for the statement that Merino sheep 'formed the basis of many of our Down flocks'. This statement was arrived at from a scientific study of wool fibers and inheritance factors, and should carry weight. It is certain that Southdown wool more nearly approaches Merino than that of any other breed.

Again, consider the change in color and fleece. From a black face with a small tuft of wool we find that they

became speckled faced and finally solid colored. An occasional white face occurred but was not liked as Mr. Ellman preferred that approaching the color of a deer. The fleece was decidedly changed in character, losing its brittleness, earlier thought to have been caused by the character of the land on which they grazed, and becoming finer, longer in staple and heavier in weight. These physical characteristics would have been extremely hard to change through selection, but comparatively easy to do through use of Merino blood.

Whether or not any outside blood was used, Mr. Ellman made a wonderful change in the Southdown. Compare the description of the original type with the following one, given early in the 19th century. "No horns, a long speckled face, clean, thin jaw, a long but not thin neck, no tuft of wool on the forehead, which they call owl headed, nor any frize of wool on the cheek. Thick in the shoulders, open breasted and deep, both fore and hind legs stand wide, round and straight in the barrel, wide upon the loins and hips, shut well in the twist, which is a projection of flesh on the inner part of the thigh that gives a fullness when viewed from behind and makes a Southdown leg of mutton remarkably round and short, more so than other breeds. A thin, speckled leg and free from wool, the belly full of wool, the wool close and hard to the feel, curdled, (crimpy) to the eyes, and free from spiry or staring fibers." Change the head type and color and shorten the neck and one has a very good description of the Southdown of today.

The Ellman flock at Glynde attained great prominence and from it was drawn much of the blood which improved the Southdown both in England and foreign countries. The flock was dispersed in 1829. His sons carried on until the last of the family disposed of his flock in 1876. These flocks



A typical specimen of the Southdown breed. This ram is one of the most noted sires of the breed in recent years and has sired many of the champions at our leading shows. Photo as a lamb.

never were as prominent as that of John Ellman, for a new breeder had come into the picture that was destined to carry the Southdown to further perfection and increase its popularity. This was Jonas Webb of Babraham.

Jonas Webb started to breed Southdowns in 1822, selecting the best ewes and rams he could obtain in Sussex, many of them from Mr. Ellman. From this initial start the flock was continuously bred within itself and no outside blood was ever brought in. It was this constructive inbreeding that enabled him to develop "qualities till then unknown in Southdowns, and to make them permanent and distinctive properties." So successful was Mr. Webb in his breeding that it is stated that he carried off all the best prizes for Southdowns at every National Exposition from 1840 till the flock was dispersed in 1861, and that it was difficult, if not impossible, to find a Southdown flock of any reputation in the world not closely related to the Babraham flock.

To those who feel that great age is a valuable asset in a breed, we recommend reading the story of the development of the Southdown again and they will discover that while the breed is one of the oldest of the mutton sheep, that within the past 150 years it has been completely transformed and its present type was fixed within a period of less than fifty years and its prepotency developed in less time, through a practice of continuous inbreeding.

For many years Southdowns were looked upon as a 'gentleman's sheep'. They were favorites among the nobility and landed gentry of England, due in part to their pleasing appearance and also to the excellence of their mutton. They were not in so much favor among tenant farmers as they were considered of small size and shearing less than some other breeds. It finally was discovered that the breed did not re-

BREEDS OF SHEEP



A Southdown ewe, a typical specimen of the breed, which was named an All American Yearling Ewe.

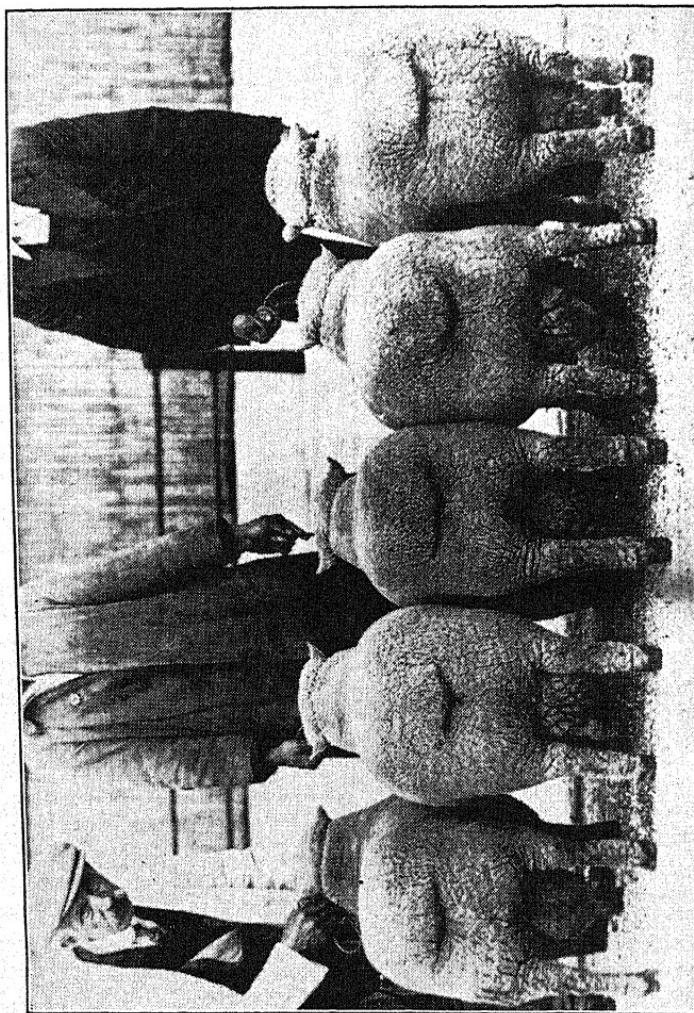
quire nearly as much food as others and that three Southdowns would require no more than two of any other breed, and men who figured on returns per acre, rather than on returns per head, began turning to Southdowns. In recent years, the demand for a well fleshed carcass, not too large or coarse, has done much to stimulate the demand for Southdowns and its popularity is growing rapidly.

The greatest contribution, however, that the Southdown has made to the sheep industry, has been in commercial cross-breeding and improvement of carcass of nearly all of the Down breeds of England.

As these various breeds are discussed, one will note how the Southdown has entered into their development. In 'Sheep Breeds and Management' by John Wrightson, Pres. of the College of Agriculture, Downton, we note "for crossing purposes, the Southdown has been particularly useful and his blood exists in every improved Down flock. It is to the admixture of the Southdown, made long ago that the improved Hampshire Down owes his position. Through the Hampshire the Oxfords get the same quality, and the Shropshires were no doubt crossed with Southdowns, as we shall see later."

Youatt, in speaking of the sheep of Dorsetshire, speaks of a few flocks of the pure breed of Dorsets to be found in a radius of ten or twelve miles from Dorchester and says, "Even there, some Southdowns are found, either pure or crossing the Dorset. The breed between the Dorset and the Southdown is a very useful one. This breed has rapidly increased within the past five or six years and threatens to supersede the Dorset and Southdown."

It was for the purpose of crossing on other breeds that the Southdown first came to the United States, and it might



These English Southdown ram lambs were sold at the Luton Hoo dispersal sale held early in 1942. Note the extreme depth in the twist and wide thick leg of mutton, qualities for which this breed is noted.

be well, at this point, to give a brief account of the early history of the breed here.

The first mention to be found concerning Southdowns in the United States is a statement of the United States Department of Agriculture in the Special Report on the Sheep Industry in the U. S. It states, "It is believed that the best sheep of Rhode Island and eastern Connecticut were generally of Southdown blood and that the black ewes sold by Wm. Coddington to Gov. Winthrop in 1648 were of this breed."

The first authentic record of a flock of Southdowns is one that was established in 1803 by a Doctor Rose of Fayette, New York. This flock was later crossed with Merinos.

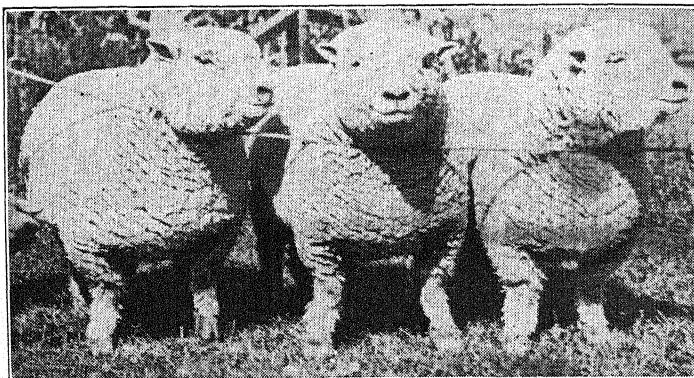
One of the most noted early breeders in New York was Samuel Thorne, who practiced crossing Southdown rams on Merino ewes for early market lambs. These lambs were sold as soon as they reached a weight of forty pounds. Here was one of the first to engage in hot house lamb production. When this flock was dispersed in 1863, the ewes sold from \$20.00 to \$95.00 per head and the rams from \$17.00 to \$500.00. The latter price was for an imported ram from the Babraham flock.

As a sidelight on the size of the Southdown at this time, it is said that in 1841 two Southdown rams from the Babraham flock of Jonas Webb were shipped to Virginia, one of these rams weighing 249 pounds and the other 254 pounds. The Champion Southdown ram at the Philadelphia Centennial in 1876 weighed 273 pounds and the ewe 173 pounds.

In New Jersey we find that a Mr. Taylor of Monmouth County, engaged in the same practice as Mr. Thorne and later built up one of the best pure bred flocks in the country. At the Babraham dispersal in 1861, he secured the highest priced animal sold, a two year old ram, for \$1300, and a yearling

for \$500. He also secured some ewes. He followed the English practice of renting his rams for the season at an average price of \$50.00 per head. The blood of this flock was widely disseminated throughout the country.

In Massachusetts, farmers in the Connecticut River valley turned to sheep in order to maintain soil fertility in the tobacco fields. Here the raising of early lambs is quite generally followed and Southdowns have proven the best sires for such a practice. Some of the best flocks in the country are to be found within this area.



Three Southdown rams imported from the Sandringham and Luton Hoo flocks in England for a Canadian Southdown breeding establishment.

Kentucky started her Southdown flocks about 1824 and the breed has been very popular in that State ever since. The flock of Cassius M. Clay has been in existence for over seventy-five years and has been bred during the greater part of that time, at least, for as large a carcass as could be produced and still retain true Southdown form.

In recent years Kentucky breeders have imported from England rather extensively and the flocks of the State have been brought up to a high standard. To those men who have made this blood available to the sheep men of the State, a word of appreciation is due.

In recent years several good flocks have been established in the Corn Belt section and here the demand is rapidly growing for Southdown sires for market lamb production.

In Tennessee and West Virginia there is a steady increase in the use of Southdowns for mutton lamb production and the 'gentleman's sheep' has demonstrated its ability to produce the best commercial lambs going on the market.

In Canada the Southdown has long been popular when bred pure and in cross breeding on the larger breeds.

The quality of Southdown lambs is recognized by the packing plants, for they pay a premium of as much as a dollar and a half per hundred weight for well finished loads of the breed.

In Canada are to be found some most excellent stud flocks. Many of the flocks in the United States owe their origin to these Canadian breeders, some of whom have consistently imported the best blood from England, and these flocks have helped to contribute to the mutton industry of America.

In New Zealand the use of Southdown rams on such breeds as the Romney and Corriedale, as well as cross bred Romney-Lincoln and long wool and Merino ewes, has made New Zealand or 'Canterbury' lamb famous the world over. No other country in the world produces as uniformly high quality of lamb as does New Zealand. In speaking of this, an English authority says, "New Zealand lambs are outstanding because of their quality and type. This is not confined

to an individual consignment, but to their consignments marketed over a period."

In Australia there has been a steady growing swing toward lamb production in areas where conditions are suitable. The method used is similar to that in New Zealand. It is stated that the best results have been obtained through using Southdown rams on grade Corriedale ewes, the lambs being comparable with the best of New Zealand.

As sires for commercial lamb production in the United States, except possibly, the range section, the Southdown seems to fill the bill admirably. There is a tendency, however, to breed them to too fine a type. The show standards in recent years have called for short bodied, very compact sheep. Such sheep produce less of the highest priced cuts, the loins, and they do not gain as rapidly and lack room to carry a lamb. It is very questionable whether the show ring standards of many of our breeds of sheep have not been a detriment to their practical use in a commercial way, rather than a help to guide men in the proper selection of stud flocks. After all, the only measure of value to be found in any breed, or in any individual sheep, is that of the wool sack and the butcher's hooks. Any deviation from this will always eventually reflect against any breeder, or if generally practiced, any breed.



CHAPTER VI

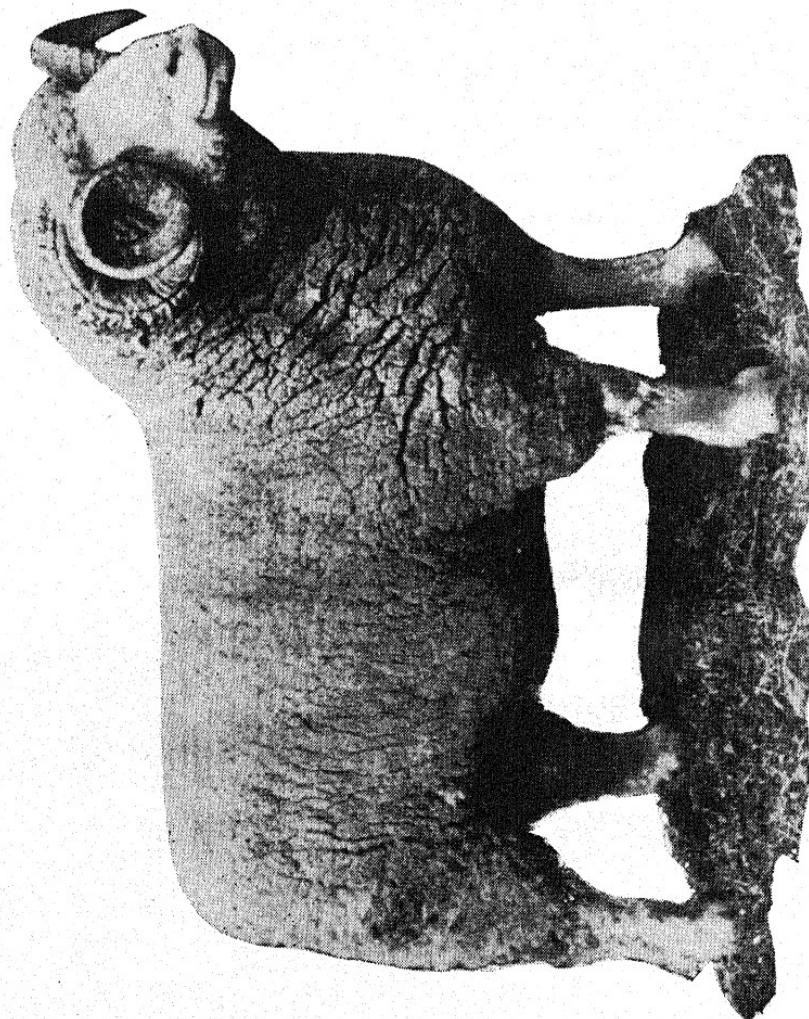
Other Down Breeds

FROM EARLY TIMES the country of Dorsetshire has grown a white faced horned breed noted for its prolificacy and the fact that the ewes would mate at all seasons of the year, and when fed highly were said to produce two crops of lambs a year.

Whether the Dorset has been the result of selection within itself or been improved through outside blood is a disputed question. It is stated that Southdowns were tried with a degree of success and that Merino blood was also used. There is much to substantiate the latter statement. Merinos also will take the ram at all seasons of the year and Merino influence can be traced in the fleece refinement of the modern Dorset. It is also significant that within twenty years time from the introduction of the Merino in Dorsetshire fleece weights on Dorsets were doubled.

Whatever may have been the ancestry of the Dorset, it occupies a distinct position among mutton breeds and also a distinct type. It is horned in both rams and ewes, face and leg a pure white, wool of good length and quality and average weight.

Its body is long and loin heavy with a fair twist. A tendency to roughness in the back, open shoulders, and crookedness in the legs and pasterns are the breed's chief defects. As a milker, the breed excells and it is extremely prolific.



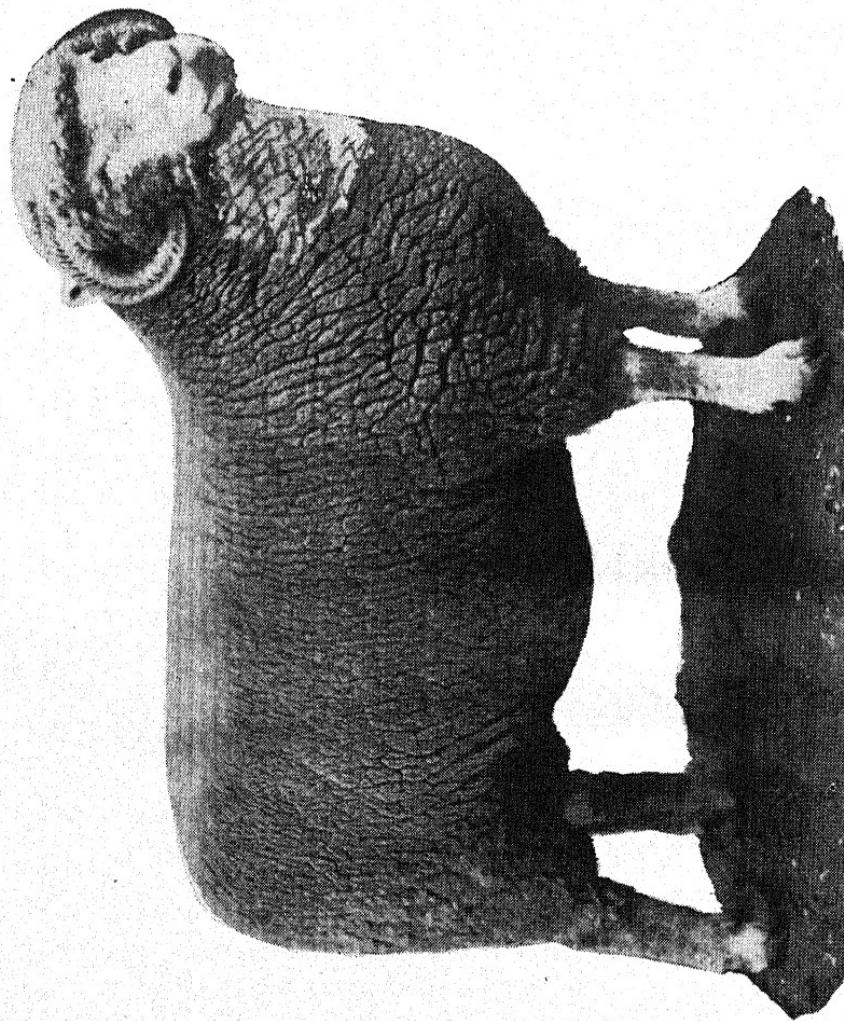
An All American Dorset ram, a typical specimen of the breed.

In New Zealand the breed is only rarely found, but in Australia it is held in high esteem as a lamb producer, being crossed generally with a Southdown for commercial lamb production.

The breed was one of the last of the English breeds to be introduced in the United States. Its first appearance here was at the Chicago Fat Stock Show of 1885, when a small flock was sent over from England. In 1887, the first flock of the breed was started in New York state from a Canadian importation, by Wm. Daley, of Lockport. The same year A. Thayer, of Hoosick Falls, imported twelve head from England. In 1891, an importation was made from England by Geo. E. Jones, of Litchfield, Conn. Vermont also made an importation of Dorsets in 1887 and again in 1888 from England. There is a record of Dorset sheep being brought into Pennsylvania in 1887 by a Mr. Small, of Cooperstown, N. Y. These must have been of Canadian origin as the New York and Vermont importations were all that came from England that early. In 1889, T. S. Cooper, of Coopersburg, imported 153 Dorsets and in 1891 brought over 200 more. Mr. Cooper's importations were said to have been from the best sheep to be found in England, as were those of J. B. Henderson and H. S. Buchanan, consisting of sixty-six head imported in 1891.

The development of the hot-house lamb industry has stimulated the demand for Dorsets. A favorite ewe for this purpose is the crossbred Dorset-Delaine. When bred to a Down ram of good conformation, this type of ewe produces an ideal hot-house lamb.

In recent years Dorset breeders have changed the type of the breed to a considerable extent. They have been made shorter legged and shorter in the body. The back has been



An All American Dorset ewe. A typical specimen of the breed.

smoothed out and the shoulders better laid in. There may be an extreme in this direction if not watched. The Dorset ewe must have length and scale if she is to raise twins and suckle them well. The breed occupies a field clearly its own and it would be a serious mistake to so modify it as to in any way lessen its usefulness in this practical way.

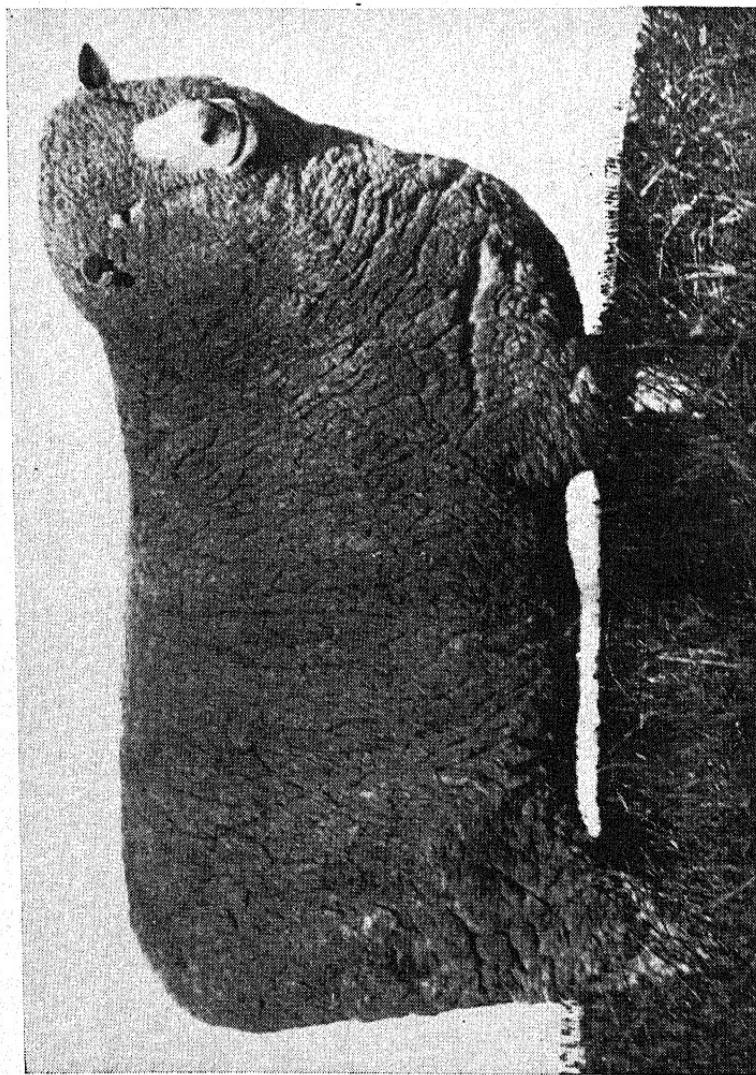
The Ryeland

In Herefordshire is to be found a breed known as the Ryeland. The name is said to have originated from the habit of feeding them on rye fields.

Of the origin of this breed nothing is positively known. Youatt was of the opinion that it was of Merino foundation brought in by the Romans when they invaded England. He says: "The wooly head, the throatiness, the form of the quarters, the whole shape and character of the animal all betray the origin of the breed." Later when the Merino was brought into England crosses were made with them and also with the Leicester. The breed then may be said to have an ancestry common to that of the Merino with later crosses of Merino and Leicester, a formula since used in developing some of our more Modern breeds of sheep. For the past seventy years improvement of the Ryeland has been through selection and the type has been firmly fixed.

The more common description of the Ryeland, a white faced Southdown, is hardly accurate. The Ryeland is a larger framed, heavier shearing sheep than the Southdown, shearing about eight pounds on an average, but hardly as good in carcass. It fattens readily and the meat is fine grained and of excellent quality. It is more apt to be slack in the back than the Southdown and not as well filled in the twist.

For a long time the breed was confined to its own immediate locality. In 1901 a few were imported to New



A champion Ryeland ram, bred and shown in New Zealand at the New Zealand Royal Show.

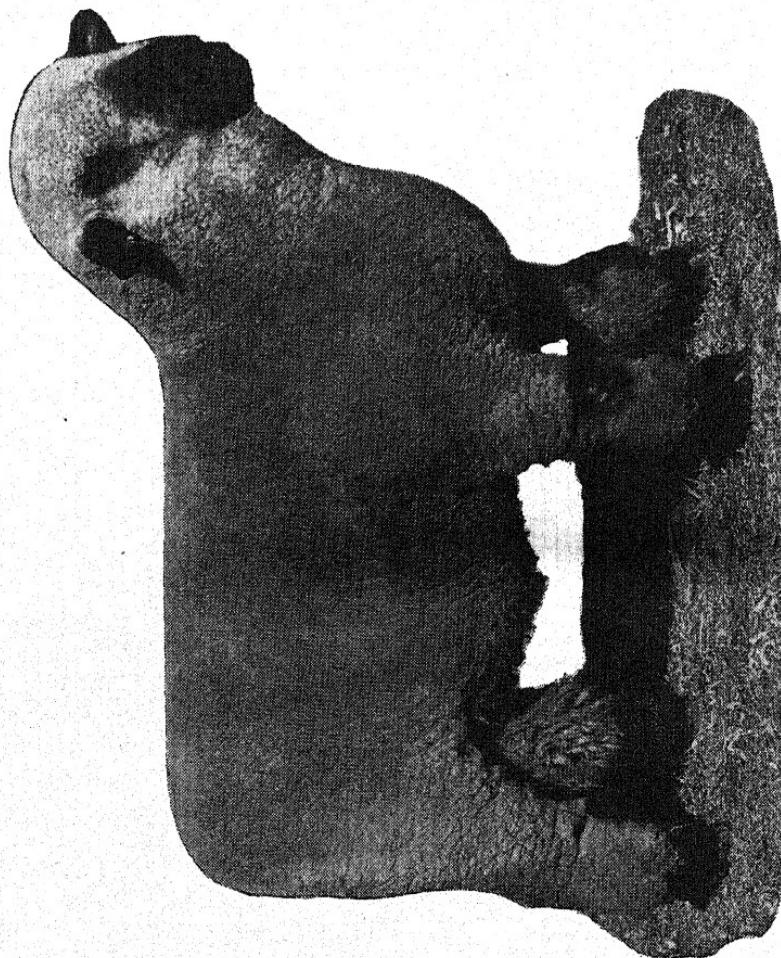
Zealand where they have been well liked. In the United States only a few are to be found. Within the past ten years two flocks have been started in Kentucky. Their owners speak highly of the breed and it is worthy of an extensive trial in our farm states.

The Hampshire

The Hampshire, as we know it, is rather a modern breed. Youatt, writing in 1837, does not mention it, but speaks of the sheep of Hampshire as being largely of Southdown blood or Southdown crosses on the Berkshire breed, now extinct. This breed was described as mostly horned but some polled, generally black faces, black or mottled legs, although some had white or mottled faces or legs; Roman noses, long legged and growing to large size at maturity, but slow to develop. Another breed used was the Wiltshire — the latter a fine woolled, horned breed growing to a good size and of fair carcass, but coarse and very heavy in bone. The common practice was to cross the Wiltshire on the Berkshire, and later with Southdowns.

In passing, a point of interest in the Wiltshire is that the breed finally became extinct through repeated crossings with the Southdown, finally reaching a point where the only distinguishing features between it and the Southdown were that the Wiltshire is a little larger, finer fleeced and *lighter colored*. The question might be asked whether this type was used in the development of lighter color in Southdowns?

To return to the Hampshire, Wrightston, in his "Sheep Breeds and Management," refers to a Mr. John Twynam who used Cotswold rams on the breed that was being developed through the above mentioned crosses, and that the rams from this cross were freely used by the best breeders in Hampshire.



A winning Hampshire ram lamb. A typical specimen of the breed.

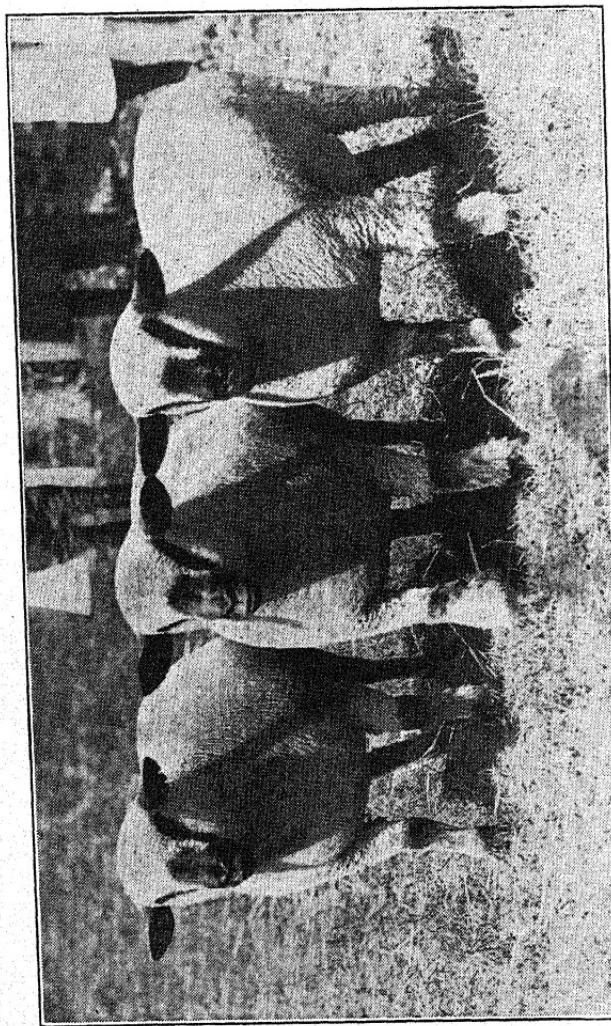
To Mr. Humphrey of Oak Ash is given credit for fixing the present Hampshire type. In 1842 he secured a top Southdown ram from Mr. Webb of Braham and later secured two others at two-year intervals. This meant the topping of the modified Hampshire ewe with Southdown blood for a period of at least six years. No other blood was used outside his own flock thereafter, except an occasional ewe purchased to bring new blood in the flock, and then never directly. For example, a ewe so bought might drop a desirable ram lamb. This ram would then be bred to a few selected ewes and their ewe lambs saved as dams for future stud rams.

All rams used in the stud were tried out in a limited way and, failing to breed well, *were sent to the butcher.*

Another early breeder of Hampshires was James Rawlence, who started with Sussex ewes using Humphrey's rams on them, selecting with great care and finally becoming known as the best breeder of his day, and his flock at Bulbridge became the foundation of many of the leading studs to follow him.

One is struck by the parallel history of the Southdown and the Hampshire — Ellman, the great improver of Southdowns, and Webb, following to fix the type through inbreeding; Humphreys, the improver of Hampshires, and Rawlence who fixed its present type. This type did not become definitely fixed until about 1860, about twenty years after Mr. Humphreys started to improve the breed.

In appearance the Hampshire is the boldest and most massive of our breeds of sheep; the head is large and heavy, the nose Roman, and black, the ears large and black. The body is deep and wide, ribs well sprung, thick in the twist, and back long and strong; the legs are black and bone is



Three Hampshire yearling ewes, very uniform, and showing Hampshire type.

heavy. The fleece is $\frac{3}{8}$ to $\frac{1}{4}$ blood, fairly short and light, with an inclination to black fibers running through it.

Hampshires are noted for their ability to make rapid gains. They are heavy eaters and good mothers, so that gains of a pound a day in the lambs is not unusual. Whether these gains are made more cheaply than other breeds is a question. The breed is a favorite one for crossing in the west and will continue to be so, so long as the public range is leased at so much per head. The carcass of the Hampshire is somewhat wasty and the meat not as fine grained as some, but for early maturity the breed is unexcelled.

The Hampshire was first introduced in Virginia some time prior to the Civil War. The first record of an importation from England is in 1855, when Thos. Messenger of Great Neck, New York, brought over a small flock.

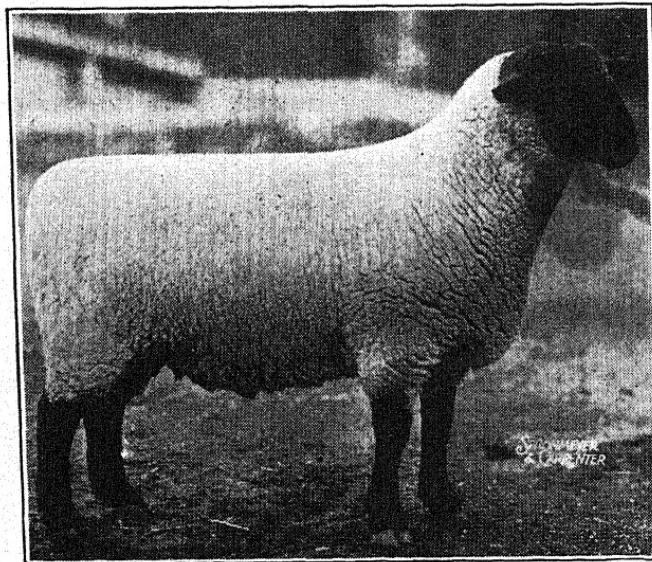
The breed at the present time is being developed along two different lines; the eastern breeder producing a wide, thick, short legged sheep, while the western flocks are producing more upstanding specimens of the breed. Whether two distinct types within a breed is a necessity is a somewhat debatable question. Yet so long as different climatic or economic conditions are to be met so long we may expect to find efforts being made to make breeds conform to them.

The popularity of the Hampshire has been largely confined to England, Canada and the United States. In New Zealand the breed is considered too light in the fleece, as compared with other large breeds, and too coarse and wasty in the carcass to meet the requirements of the frozen lamb market.

The Suffolk

The original sheep of Suffolk and Norfolk bore little resemblance to the Suffolk of the present time. The rams and

ewes were both horned, the face and legs mottled or black, the latter color preferred; the shoulders were low, chest narrow, and wide loins. They fattened well and were early introduced in the United States by the Massachusetts settlers. It is thought the mountain sheep of West Virginia, Kentucky and similar areas have descended from the old Norfolk sheep of colonial days.



A Canadian champion Suffolk ram. A good specimen of this breed.

The early improvement in the breed came through the use of Southdown crosses. These crosses appear to have been made in two ways — the Southdown ram on the Suffolk ewe,

and the Suffolk ram on the Southdown ewe. About the beginning of the nineteenth century, the type was becoming fairly well fixed, due in no small degree to Mr. Geo. Dobito of Lydgate.

In some respects the Suffolks and Hampshires are comparable. Both make rapid gains, both produce similar fleeces of wool, both are black faced and grow to large size.

The main difference lies in head type, the Suffolk being lighter in head and clean of wool to its ears. The Suffolk is also lighter in bone. The meat is fine grained and the breed has frequently won the carcass classes at the leading English shows. The breed has become noted as producing mutton, to quote an early authority, as having "No superior in grain or texture, flavor, quantity and color of gravy with fat enough."

The strong point of the breed is claimed to be in its superiority for crossbreeding in the production of market lambs, its light head making lambing easy, and the lambs making rapid gains and very uniform. The Suffolk is proving quite popular in some sections of the West, where it is a rival of the Hampshire. Both breeds have strong advocates and the rivalry is keen. In observing the rams of the two breeds being offered for sale in the range states, it was the writer's opinion that the Hampshire rams were on an average better specimens of their breed than were the Suffolks. As the latter breed is comparatively new in the United States and prices for top animals in England are quite high, such a condition is easily understood. It is the result of trying to supply a demand without sufficient goods of the right sort. It may result in comparisons not quite fair to the breed and those interested in promoting it should watch this point carefully.

The first importation of Suffolks in the United states was in 1888 by M. B. Streeter of Brooklyn, New York. For some

time it was the only flock in the country and there were only two flocks in Canada as late as 1892.

In Canada the Suffolk registrations far exceed those of any other breed. In the United States it is still regarded as a new breed and it is only within the past few years that any great effort has been made to popularize it. That it has a place in our sheep husbandry is now being proven, and its future looks promising.

The Oxford

At the beginning of the nineteenth century the sheep of Oxfordshire were Wiltshires, Leicesters and Southdowns. As late as 1832 there seems to have been no effort among the sheepmen of this country to develop a distinct new breed. Between this date and 1857 a rather general effort was made to develop a breed best suited to that area, and at that time it was decided to name them Oxfordshire Downs.

As to the origin of the breed, Mr. Chas. Howard states that they were produced by crossing Hampshire and sometime Southdown ewes with Cotswold rams. Hawkesworth says: "The breed originated by crossing the Southdown ram and the old Norfolk Heath ewe with a dash of Longwool." Considering that the Hampshire was in part produced from crossing Southdown rams on Norfolk ewes, this statement does not conflict to any great extent with the first one. Lydekker states: "The first step was the crossing of Hampshire Down ewes with a Cotswold ram, but Southdowns were also used in the early days of crossbreeding." Wrightson quotes a Mr. Druce as saying the foundation was Cotswold rams on Southdown ewes, but at a later date, stating: "The foundation of this sheep was begun about the year 1833 by using a well made neat Cotswold ram with Hampshire Down ewes." This date was nine years before Mr. Humphreys used Southdown rams

to improve his Hampshires, which again confirms Hawkesworth's statement as to the female side of the breed. If the reader will refer to the history of the Hampshire, he will note the infusion of Cotswold blood in that breed in its early days through the use of Twynam rams, and to Mr. Twynam may be due the credit of first calling to the attention of the sheepmen of Oxfordshire the advantage of the cross.

There is some contention that the breed was a cross of Cotswold rams on Southdown ewes. Any person who has seen this cross made would be hard to convince that the breed so originated. Consider the Oxford even of twenty to thirty years ago and it was, in the main, the longest legged, largest framed, slowest maturing of all the Down breeds. To assume that such a progeny would result from mating a sheep of medium leg and fairly good rear end to the blockiest, most compact, earliest maturing, short legged sheep known is contrary to all known laws of breeding.

Anyone familiar with the breed of forty years ago and as it is today will not question the statement that Southdown, or possibly Shropshire, blood has been used in refining it and bringing it to its present type, but this infusion came after the Oxford had been recognized as a distinct breed for many years. Whatever the origin, the breed today has become fixed in type and is commanding a rather important position in the sheep husbandry of the country.

It was in 1853 that the first lot of Oxfords came from England to the United States, when R. S. Fay brought a flock to Massachusetts. The breed became popular in the East because of the great amount of wool produced as compared with other breeds.

The Oxford of today is a sheep of moderate length of leg, strong back, deep body well rounded and well let down in the



An All American Oxford ram. A good specimen of the breed.

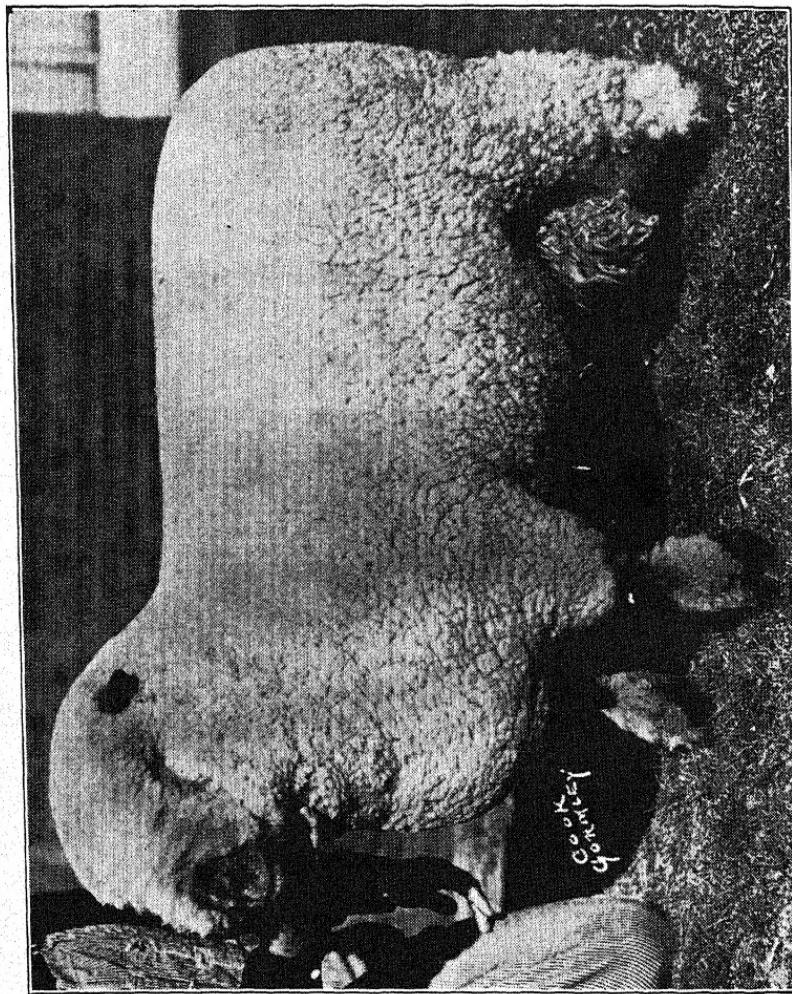
twist. The face is light to grayish brown and legs the same. It grows rapidly, making gains comparable to any breed, and is quite prolific. The great advantage it possesses is found in its heavy fleece of $\frac{1}{4}$ to low $\frac{1}{4}$ blood of good length and distinctive crimp. The breed would seem to have possibilities in the western range country in building up ewe flocks that would produce a good lamb and return a heavy fleece. In some of the middle western states it is on the increase as a farm flock breed, and possibly no breed has more nearly kept pace with changing market conditions than has the Oxford.

The Shropshire

In trying to discover the foundation strains of many of our modern breeds of sheep, one is struck by the conflicting accounts given. In all likelihood, there is a measure of truth in all of them, as it is only natural to try many combinations in an effort to secure desired results. Any offspring approaching the type wanted would be retained and mated to similar typed sheep and finally, through close breeding and rigid culling, a new breed would be evolved.

The Shropshire is no exception. Originating in a country that had some four distinct breeds of sheep and where cross-breeding was rather indiscriminately followed for a period of years, it would be unusual if the exact parentage of the breed were known.

It is commonly stated that the foundation used was the Morfe Common sheep, a breed closely related to the Ryeland, if not a strain of Ryeland. This was a small breed having dark or mottled faces and legs, small horns and carrying a fine quality of fleece weighing about two pounds. Early in the nineteenth century there was an effort made to improve this breed, as well as the other native breeds of Shropshire, through the



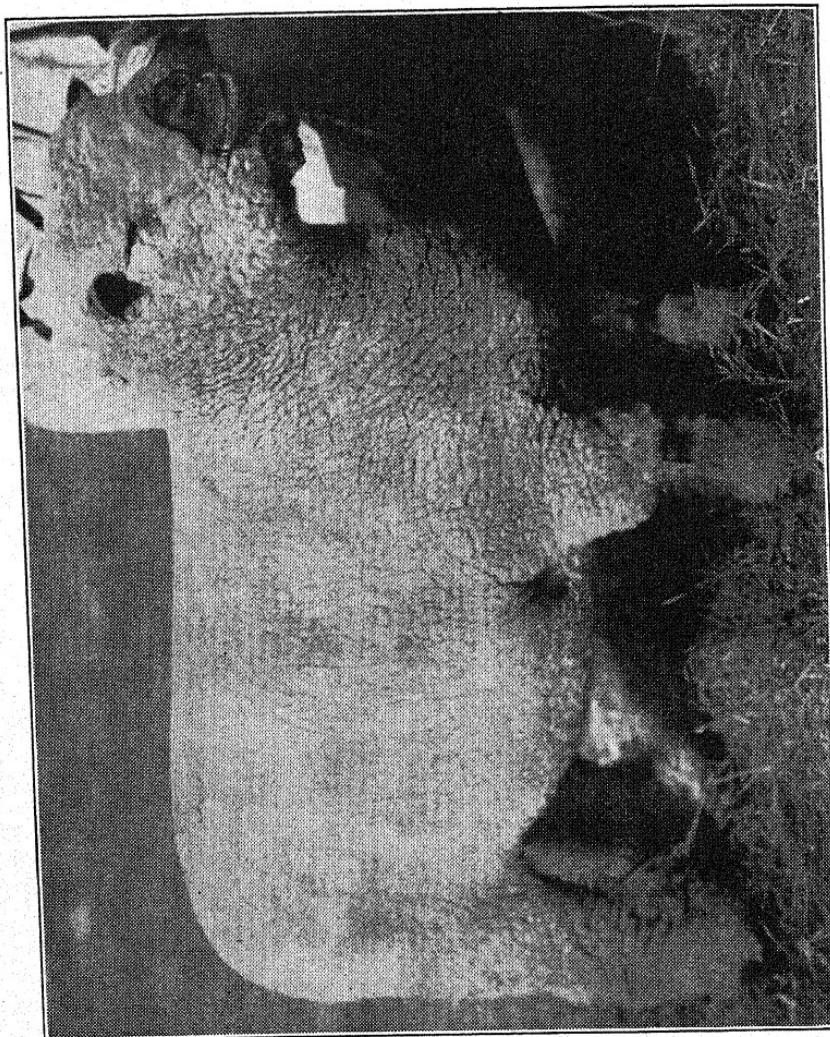
An All American Shropshire ram. A typical specimen of the breed.

use of Cotswold and Leicester rams. Southdowns followed this cross and through selection and inbreeding a new breed was developed which was called Shropshire. In 1856 the breed was spoken of as still lacking in fixed type, so that they could be called a breed. In the main, at that time they had gray or spotted gray faces and legs, and a carcass approaching that of the Southdown. Tanner states that the breed was a cross between the Long Mynd and Southdown, while others claim that Cannock Chase sheep played an important part in the early history of the breed. It is possible that some foundation exists for all these various claims, but to the Southdown the breed is indebted largely for its mutton form.

As with all other breeds, the fixing of Shropshire type was largely the work of one or two men. A Mr. Meire started the work, using Leicester rams on native ewes and then crossing with Southdowns or some other dark faced breed as their faces became white. To his son, Samuel Meire, fell the honor of completing his father's work, using a strong infusion of Southdown blood. That additional size was secured from the Longwool cross is evident, both the Morfe Common and Southdowns being small breeds of sheep. Patente, the greatest ram of his day, was so bred and his blood is said to have descended into practically every Shropshire flock.

By 1853 the breed had attained some prominence in sheep circles in England and a class was given it in 1860 at the Canterbury show. The Shropshire of that day was a very different sheep than we now find.

We have the description of two very choice specimens of the breed imported by Hon. N. L. Chaffee of Jefferson, Ohio, in 1861. The ram weighed 334 pounds and sheared 17 lbs. 5 oz. of washed wool, eleven and a half months' growth. The ewe weighed 241 pounds, shearing 9 lbs. 3 oz. of washed wool,



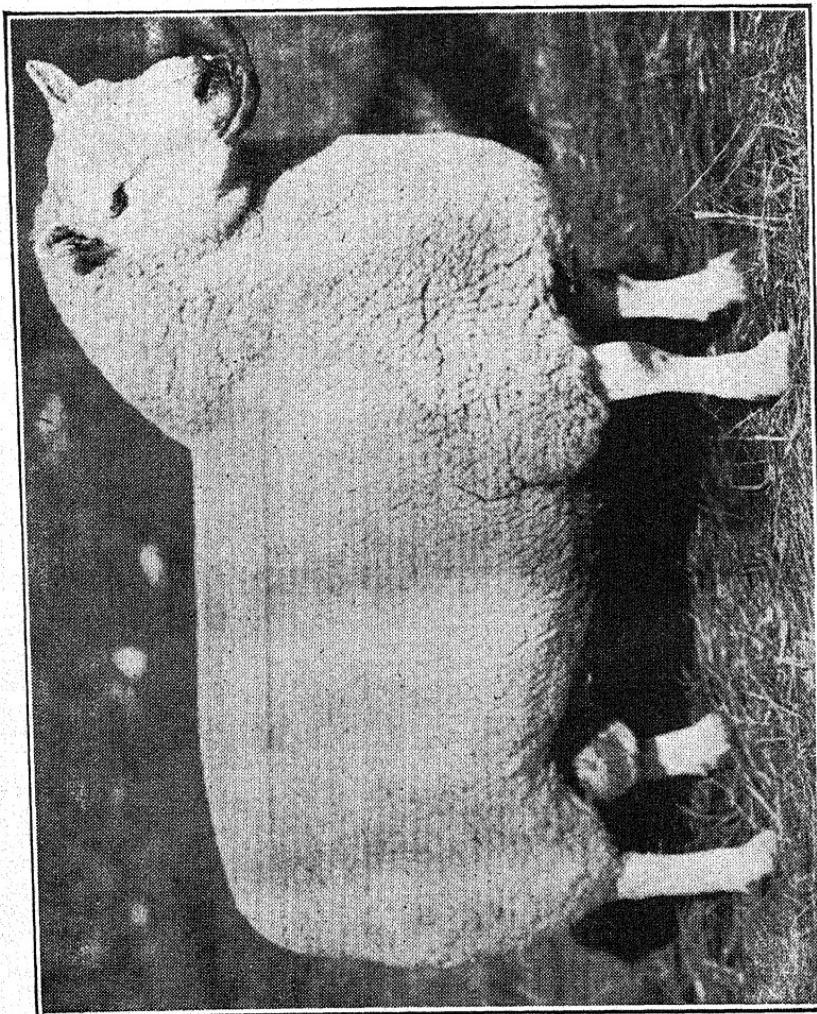
An All American Shropshire ewe. A typical specimen of this breed.

eleven months' growth. There was no wool on the face except a cap between the ears; the face and legs were the color of the Southdown and in size they were as large as any of the Down breeds. The ears were large and rather thin.

In 1884 the breed adopted a scale of points in which it was stated that rams in fair condition should weigh not less than 225 pounds and ewes 175 pounds. The color of the face was given as dark brown and the head well covered with wool to a point even with the eyes.

Such was the type of sheep that became the most popular of all our mutton breeds. In England, Canada and the United States it rapidly forged to the front as the leading breed, and one writer in 1890, in speaking of them, says: "They are increasing with a rapidity which threatens to drive out all other sheep."

There is one chapter in Shropshire history which followed closely after this date and from which the breed suffered in some sections. This came about in the desire of exhibitors to present a more "finished" sheep, or one with a woolier head and a denser fleece. Where there is a will there is always a way, and the way in this instance was through an infusion of Merino blood. Some years ago the writer made this statement only to have it stoutly denied. While in England in 1927, in conversation with Dr. A. F. Barker of the University of Leeds, he stated that he was confident that Shropshires carried Merino blood, and referred to an address which he had given some four years previous, in which he stated that the University of Cambridge in some sheep breeding experiments crossed a Merino ram on Shropshire ewes and that the resultant offspring carried variations in type in sufficient quantity to convince him that, according to laws of genetics, an infusion of Merino blood had been put into the



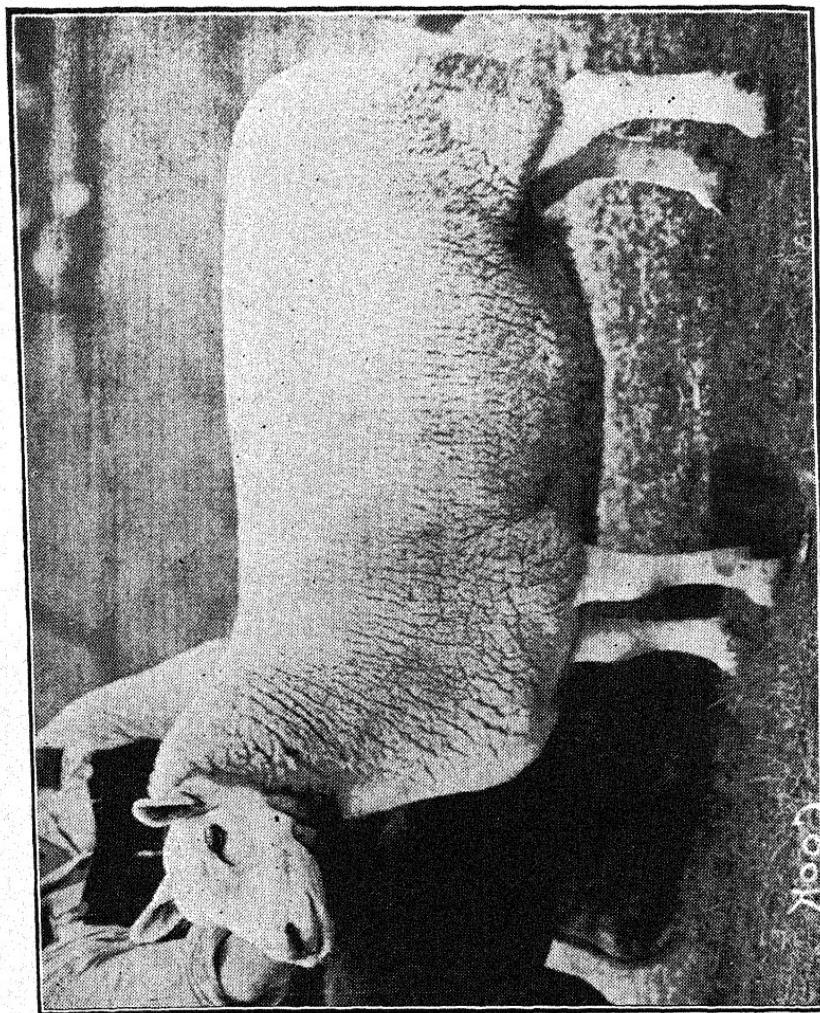
An All American Cheviot ram. A typical specimen of the breed.

Shropshires. It is now generally admitted that such a cross was made and one very prominent breeder recently said that it was unfortunate for the breed that in so doing they had put more wool on the head where no commercial sheep man wanted it, and taken flesh off of the rear quarter where everybody was trying to put more on. The incident is referred to as an illustration of what has frequently happened in setting up a show standard as opposed to a utility one.

It is only fair to Shropshire breeders to state that many of them are fully aware of the danger in over-emphasizing the fancy points, and there is a swing towards more scale and carcass even though minor features may depart somewhat from show ring type. The Shropshire is too good a breed to suffer from fads.

The introduction of The Shropshire in the United States marked a distinct change in sheep management. Prior to this time Merinos predominated in the corn belt area. Shropshire rams crossed well with Merino ewes and the offspring fattened readily and met packer demands. Gradually the Merino was supplanted with flocks of grade Shropshires and many pure bred flocks were established to provide for the demand for rams. The breed became firmly established before any of the other Down breeds had achieved any wide distribution in the area, and an active organization of breeders kept it to the forefront. It is still the most popular breed over a very considerable part of eastern United States and, as a farmer's sheep, has much to recommend it.

It combines a fairly heavy fleece of good quality with a good carcass of medium size; the ewes are prolific and good mothers. The Shropshire will, without doubt, continue to occupy a strong position in American sheep husbandry.



An All American Cheviot ewe. A typical specimen of the breed.

The Cheviot

On the Cheviot hills of Northumberland is found a breed that is striking in its difference from other medium wooled sheep. Taking its name from the range upon which it is found, it is called the Cheviot. No better illustration of the possibility of adapting sheep to almost any climatic condition can be given than to refer to the Cheviot and Black Faced Highland breeds. The latter has already been discussed, so we will consider the Cheviot. The native range of the breed consists of a series of hills covered with sweet, short grasses. On these hills, so far as there are any records, ran a white faced breed of sheep. Tradition says they came from Scotland, but there is nothing to verify the statement. Prior to 1792 the breed was called the Long breed on account of their length of back as compared with the Black Faced Highland, called the Short breed. In 1792 a commission of Englishmen was appointed to study the breeds of sheep in the country and one of that commission, Sir John Sinclair, referring to the "Long" breed, gave it the name of Cheviot.

At this date the breed was described as hornless, generally white faced and legged, the ear large and eye prominent, the shoulder full, back long and straight, round in rib, well filled in the quarters, and covered with a *thick fleece of fine short wool*. During the winter months they were able to thrive on the snow clad hills and stand the wildest of weather.

Somewhat later an infusion of Leicester was made to hasten the maturity of the breed. This was described as improving the carcass somewhat, but while the wool was longer it was coarser and no longer adapted to the manufacture of fine cloth. Randall, in writing of the breed as it was first introduced in New York, says that it was a very inferior animal, resembling a cross between the Leicester and the native

breed, and says the only flock in the state was sold to the butchers. Randall, however, was a strong advocate for the Merino and was possibly prejudiced, as we find in the U. S. Department of Agriculture Report on the Sheep Industry that Cheviots were introduced in New York state in 1838 and the breed was quite common over the south central counties of the state, being well liked on account of their hardiness, surpassing the long wool breeds in this respect.

Cheviot flocks are to be found from New York west to the Mississippi, but they have never had a prominent position in the sheep industry of the country. There is a very considerable area in the hill and mountain sections of the East where the breed would be admirably adapted and it is unfortunate that it has not had a wider trial on such lands.

The Cheviot is one of the handsomest of sheep. It has an alert, bright eye, bold carriage, clear white face and black nose, an upright ear of moderate length covered with fine white hair, light in bone and legs covered with white hair to the knees and hocks; tan spots are objected to. The carcass is well developed in the loins and rear quarters, but the breed shows a tendency toward high and bare shoulders — a defect which some of the best breeders have overcome. The fleece is of moderate weight and grades generally $\frac{1}{4}$ blood; it is of good length and quite strong in fiber.

Its distribution is confined largely to its native country in Scotland and North England, east of the Mississippi in the United States, to the provinces of Quebec and Ontario in Canada, and with a scattered representation on the west coast of Canada and the United States.

CHAPTER VII

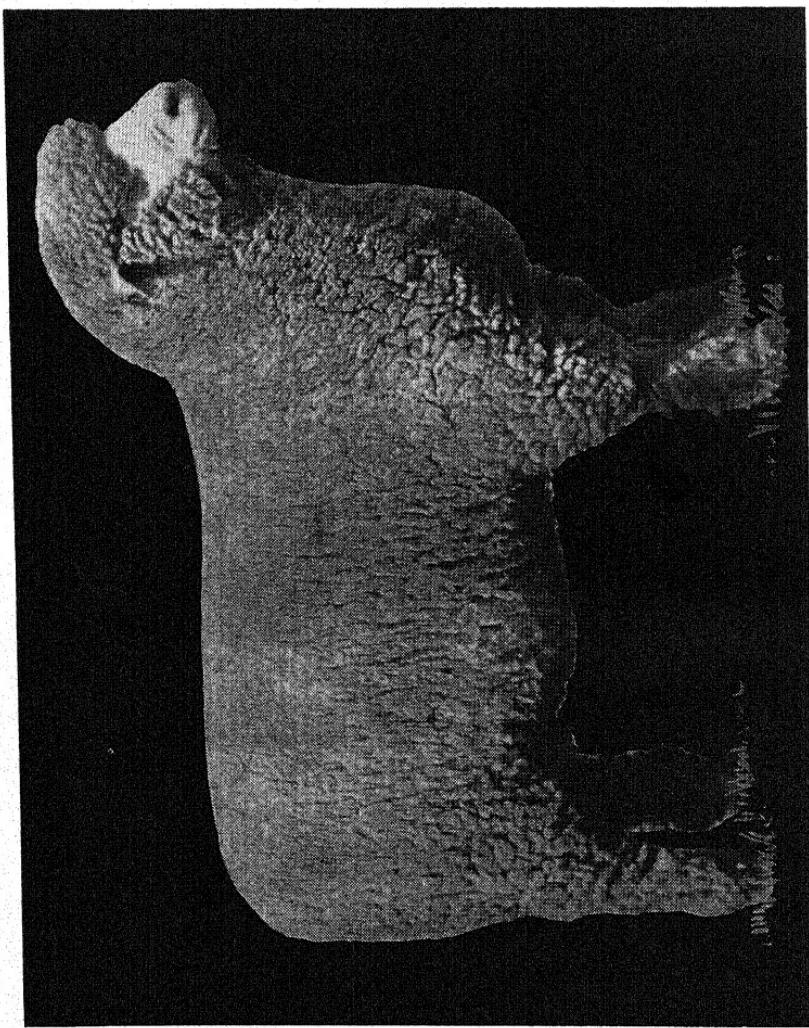
Newer Breeds

EARLY IN THE DEVELOPMENT of the sheep industry in the United States and New Zealand the value of the cross of a longwool ram on Merino ewes was recognized as producing a hardy, rapid growing sheep, carrying a heavy fleece of high quality wool.

One of the earliest attempts to produce a fixed type of this cross was that of Mr. Meade, of Frederick County, Virginia. This was named the Frederick sheep and was produced by crossing the Arlington, a Tunis-Leicester crossbred, with Merino rams. This using of Merino rams was carried on for some generations and then a Leicester ram was used, and the resultant progeny were in-bred until 1828 when it was thought the type was fixed and the sheep was offered as a distinct breed.

In describing this sheep, it was stated the flock of 130 averaged 165 pounds and the average fleece weight was $8\frac{3}{8}$ pounds of wool. Twenty-eight head sheared an average of $10\frac{1}{2}$ pounds and several $16\frac{1}{2}$ pounds. This sheep was widely distributed through the Shenandoah Valley and in Maryland and Pennsylvania. They were brought as far west as Ohio, but on the death of Mr. Meade no one came forward to push the breed and it disappeared.

Later in 1869, an experiment of crossing Cotswold rams on Merino ewes was carried on by Jos. Harris, of Rochester, N. Y. He also practiced inbreeding and established a flock noted for wool and mutton.

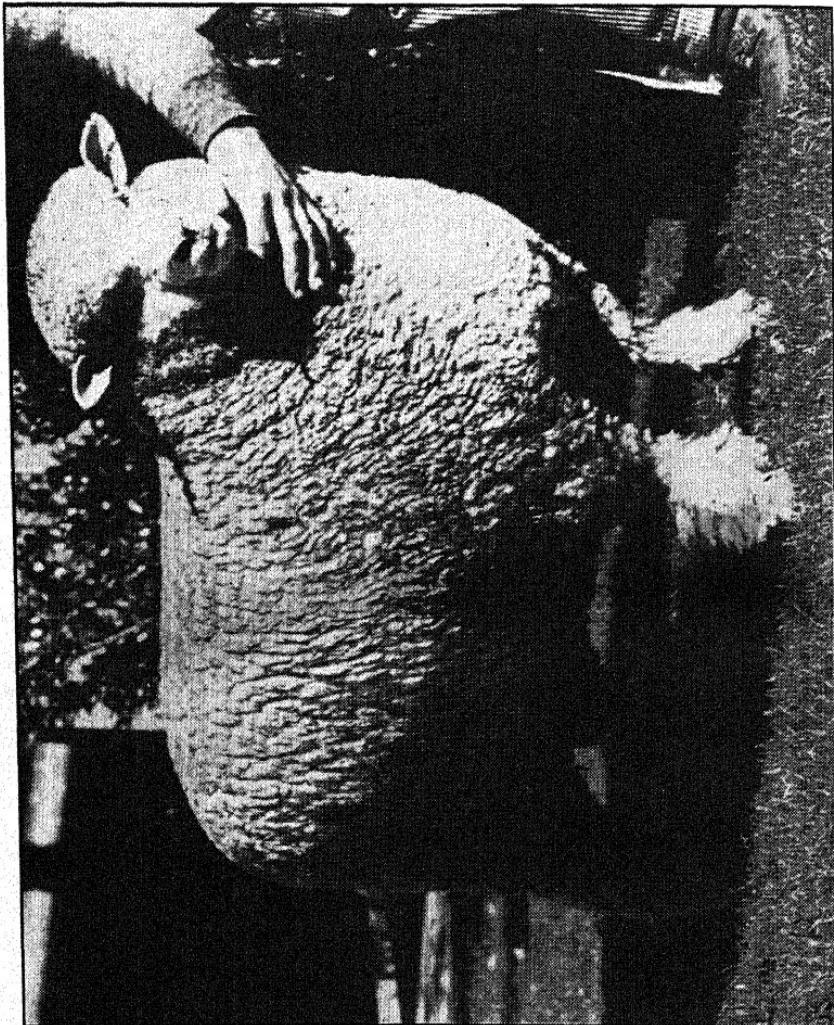


A yearling Corriedale ram in six months fleece. This ram was champion at several state and national fairs and was never defeated in the show ring. He sheared an average of 24 pounds of wool for a number of years.

We find a record in 1871 of some of these crossbred Cotswold-Merino lambs at nine weeks old — five lambs averaged 49 pounds. At seven months a lamb weighing 96 pounds was killed dressing 59%.

Possibly the most elaborate experiment was that of Col. R. W. Scott, of Frankfort, Ky., who in 1839 started to "combine the hardiness of the native sheep, the size of the Cotswold, the form and quality of mutton of the Southdown, carrying a fleece the length and weight of the Cotswold, with the thickness and softness of the Merino." Whatever else could be said of his program, it was certainly not lacking in ambition and one might think his idea was inspired over an extra tall mint julep. The breed was to be called the Kentucky sheep and to Mr. Scott's credit he faithfully worked at his self appointed task for a period of forty years. The first cross was Merino rams on native ewes. These in turn were bred to Leicester rams, and this cross was mated to a Southdown, followed by a three-fourths Cotswold, one-fourth Southdown ram. Cotswold rams were then used for two crosses, then an Oxford to be followed again by Cotswolds. In 1854 rams were selected from within the flock, then again to a ram of Cotswold, Southdown and Oxford blood and again reverting to rams selected within the flock. The flock became widely known and animals from it were shipped clear to California. The defect was the lack of uniformity in the lambs, some taking to the Cotswold type, some to the Southdown, and others reverting clear back to the type of native ewes.

An account of this experiment is given as it clearly shows that without a fixed method of concentrating blood lines, it is impossible to develop a type that will reproduce itself.



An International champion Corriedale ewe. One of the finest specimens of this breed.

The Corriedale

It remained for New Zealand to bring about a fixed type new breed from the Longwool Merino cross. In 1866, Jas. Little, manager of the Estate of Corriedale in New Zealand, conceived the idea of making one cross and through selection and inbreeding fixing a type that was intermediate between the two. The first experiment was in crossing Romney rams on Merino ewes, and the result was quite successful. The flock was inbred and attracted wide attention, but was dispersed at the death of the owner, Dr. Webster, and the results lost. Mr. Little then set up for himself, but used Lincoln rams instead of Romneys, as better results were secured. This was in 1878. In starting his flock Mr. Little selected 4,000 of the best purebred Merino ewes and mated them to Lincoln rams also of the best type. From the lamb crop about 200 ewe lambs were saved as typical of the sheep desired. Twenty of the ram lambs proved prepotent in reproducing themselves and from then on the flock was bred within itself. The flock later descended to his son, the late H. Little, whose son now operates it. In 1875, W. S. Davidson at "The Levels" bred 1,000 Merino ewes to Lincoln rams, saving 150 ewe lambs and a few of the best ram lambs. As with Mr. Little, these crossbreds were inbred, using nothing but blood within the flock. This flock is now owned by the New Zealand and Australian Land Company, and in point of age ranks as the oldest in the country, superceding that of Mr. Little by some three years.

Some few years later two other flocks were established by using Leicester rams on Merino ewes. These were the Greenwood and Ensor flocks. These two flocks were later bred to rams from the Little and New Zealand Land Company flocks. To these four flocks and one of Leonard White,

also Lincoln-Merino foundation, and now known as Bushey Park, the property of the late J. A. Johnstone, practically all the flocks of New Zealand and Australia trace.

Early in its development the Corriedale was called various names, first Half Bloods, then Ideals, and finally, after almost forty years of continuous inbreeding and culling, it was decided on the name "Corriedale" in honor of Mr. Little's work. A flock book was established in 1903. In 1905, eight breeders of Corriedales were reported in New Zealand. In 1935, two hundred and sixty flocks were recording sheep and in 1941 sheep were recorded from 311 flocks.

No breed of such recent origin has enjoyed the popularity of the Corriedale, a breed combining the hardiness and flocking qualities of the Merino, with the long, heavy back and loin of the longwool. These qualities have made it a range as well as farm flock breed and it is found in every large sheep producing country of the world. It is stated in Australia that no breed can equal it in profit. In Japan, it is being imported in large numbers and has proven the most satisfactory of all the breeds introduced. It apparently possesses the ability of the Merino to adapt itself to a wide variety of conditions successfully.

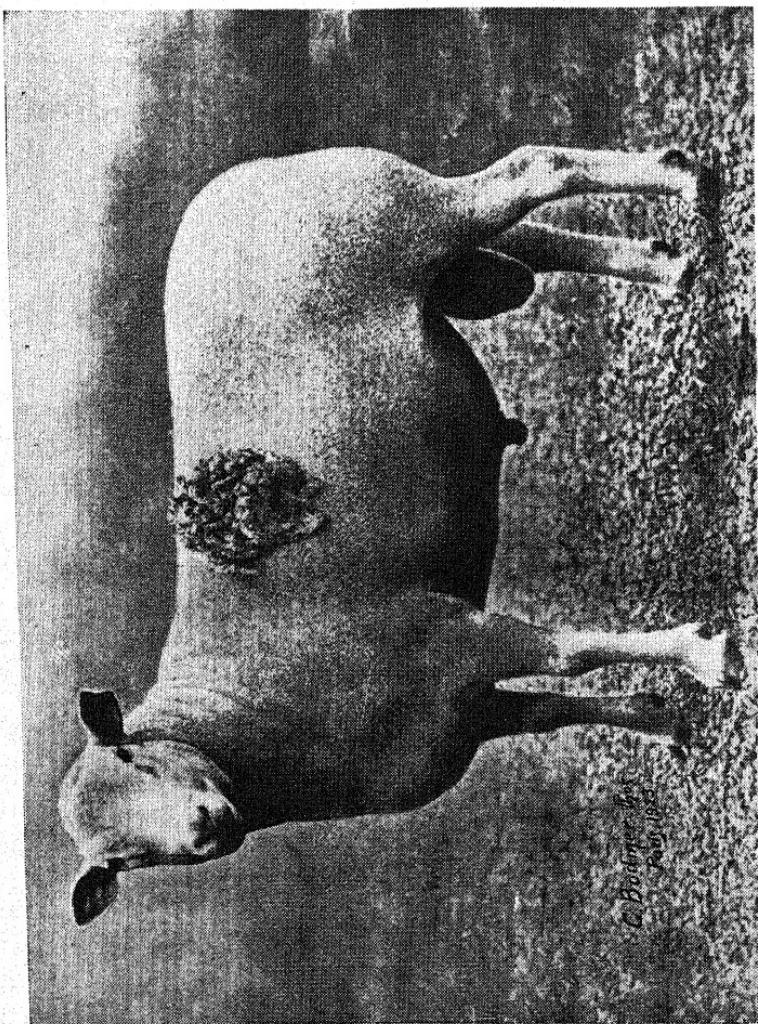
In size, the Corriedale is a medium breed, about the weight of the Shropshire. Its face and legs are white and nose generally black, the foot is compact and resistant to foot rot, the head light and the bone hard and flintlike in texture, the back long and the loin heavy but not tallowy. The breed is quiet, good mothers, and heavy milkers. The fleece runs from $\frac{3}{8}$ ths to $\frac{1}{4}$ blood, 56's-50's, breeders in New Zealand insisting on $\frac{1}{4}$ to Low $\frac{1}{4}$ blood, 50's-48's, fleeces on the rams, as indicating better carcass, more constitution, and heavier fleeces. The wool is long and carries a bold crimp,

soft to the touch and spins well. The average fleece weight in the ewes is 10 to 12 pounds, and in rams 16 to 20 pounds, but weights beyond that are common.

The breed not only illustrates the possibilities of developing a fixed type midway between two extremes, but also the demand for livestock bred purely to meet commercial requirements, the cardinal principle in breeding Corriedales in New Zealand, as one very prominent breeder expressed it, being "To fill the wool sack and fatten the bank balance." There is a tendency to a lightness of rear quarters, narrowness of chest and dropping behind the fore shoulder, which the breed has still to overcome. This is the heritage of the Merino dam. Considerable progress has been made in correcting these defects in recent years and at the present rate they will rapidly disappear.

Ile de France

Lying north and east of Paris is a rich, gently rolling country that is devoted to intense agriculture. Here we find a breed evolved through an original cross of Leicester rams on Rambouillet ewes and called "Dishley," a name applied to Leicester-Merino crossbreds. The Dishley Merino was a breed very comparable to the Corriedale and occupied the country for a considerable length of time. In an effort to improve the carcass, an infusion of Southdown was made and a new name applied, that of "Ile de France." The Ile de France shows the Southdown very much in its body conformation and short head. It carries more scale and a heavier fleece than the Southdown, and the face is white with black nose. The wool is 50's to 56's, $\frac{1}{4}$ to $\frac{3}{8}$ ths blood, and of good quality but lacking the length and distinct crimp of the Corriedale. The ewes shear 10 to 12 pounds and run from 150 to 200 pounds



Ile de France champion ram. The rosette on the shoulder shows a year's growth of wool. This permits careful judging of both carcass and fleece. Note that the head shows Scourdown infusion.

in weight in good flesh. The rams shear 13 to 16 pounds and weigh from 220 to 300 pounds.

The Ile de France has apparently been confined to a rather limited area in France and has not been introduced in other countries. It seems to be deserving of a wider recognition than it enjoys at present.

The Columbia

The Columbia is the result of the United States Department of Agriculture efforts to develop a sheep of the Corriedale type. Work was started to this end about 1914 by crossing Lincoln rams on Rambouillet ewes and then inbreeding the crossbreds. In comparison with the Corriedale, the Columbia is larger, heavier boned and it is claimed shears a heavier fleece than the Corriedales run on the same ranch at Du Bois, Idaho, where the work has been carried on.

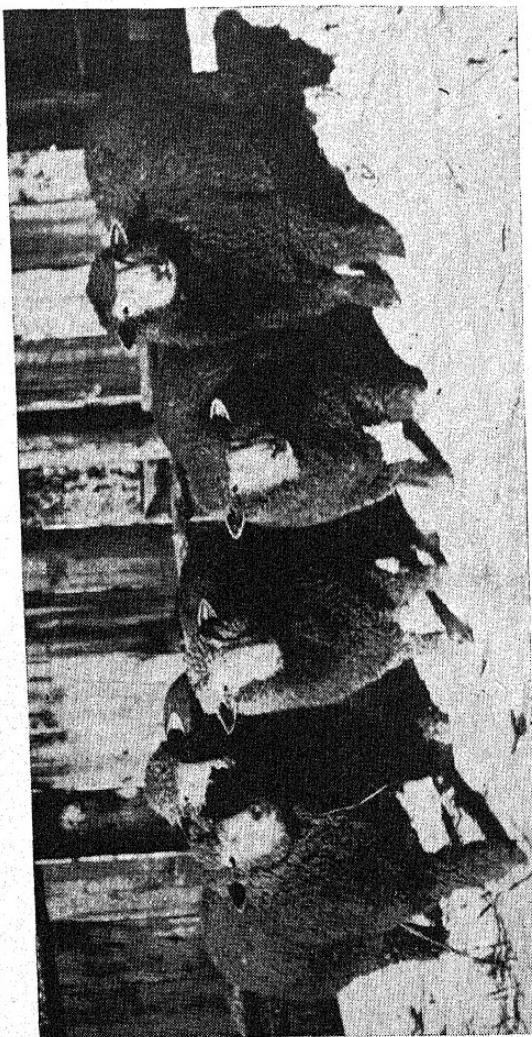
They are longer in the leg than the Corriedale and as a rule not as smooth in the carcass. To date only a limited number of flocks are being handled as purebreds, the bulk of rams sold going to supply range trade. The breed may be considered as a slightly modified type of Corriedale.

The Romeldale

This is another longwool-Merino cross except that Romney rams instead of Lincoln were used on Rambouillet ewes. This cross was tried in New Zealand but was not liked as well as the Lincoln or Leicester sire. The distribution of the breed is localized to California and the work of developing it into a fixed type has been largely the work of one breeder. The breed presents a very attractive appearance and the fleece has been selected to produce a high $\frac{3}{6}$ ths to $\frac{1}{2}$ blood, 58's-60's.

The Panama

Another cross between the Lincolns and Merinos with the cross reversed, using Rambouillet rams and Lincoln ewes.



These Columbia rams were produced on a Montana ranch. This is one of the newer breeds of sheep produced by the United States government to meet range requirements. Heretofore rams have only been available in small numbers, but the breed is now being produced in large quantities and will soon be available for extensive range use.

As would be expected, the Merino blood is indicated more strongly than in using the Lincoln sire. The wool is finer and the form not so muttony as with the other crosses. As with the Romendale, the breed is largely in the hands of one or two breeders so far.

The Polworth

This breed originated in Victoria, Australia. For many years, sheepmen occupying the farming area of this part of Australia have been following a practice of crossing Long-wool rams on Merino ewes, then crossing the ewe crossbreds with Merino rams again. This cross was called a "comeback," as coming back to the Merino. This was again crossed with Merino rams and "fine comeback" was the name applied. Fine comebacks were back crossed to Lincoln rams and the cycle repeated.

In an effort to get away from the constantly varying type of wool and the wide differences to be found in individual sheep, inbreeding of the "comeback" or three-fourths Merino, one fourth longwool, was resorted to. After some year's work the name Polworth was given the breed.

When the writer saw these sheep in 1927 there was still a wide variation in type, some were polled, some horned and on this point breeders had been unable to agree. Some were on the fine side, others were more robust in their wools, some were decidedly Merino in appearance, others showed long-wool influence. There has been considerable progress made in the meanwhile in fixing a type somewhere between that of the Corriedale and Merino. The fleece will grade 58's-60's, high $\frac{3}{8}$ ths to $\frac{1}{2}$ blood, and of good length and weight. The carcass is better than the Merino and the sheep larger. It is claimed that they are as hardy and will flock as well as Merinos. So far, the breed is localized to this section of

Australia and in some parts where it was quite popular the Corriedale is supplanting it.

Recently, efforts of the United States Department of Agriculture at the Du Bois station have been made to duplicate the Polworth, but again using Rambouillet rams rather than Merino. The name "Targee" has been given to the breed. Also an effort to duplicate the Ile de France through crossing Corriedales and Southdowns is in progress. This breed is called "Southdale." It would seem more logical to import these breeds where type is already fixed than to spend years of time and effort in attempting to develop a new breed from the same foundation sources.

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CHAPTER VIII

Fat Tailed Sheep

THE FAT TAILED BREEDS of sheep represent possibly the oldest of the domesticated varieties of sheep. Mention is made in the Bible of the "rump" of sheep used in sacrificial offerings and the fact that sheep of this type predominate in the oldest civilized section of the world lends confirmation to the argument that the various breeds of fat tails antedate other varieties.

These sheep are mainly to be found in a belt stretching from Tibet in the East westward through southern Russia and along the southern Mediterranean Coast. They thrive in a mountainous country where it is hot and dry in summer and extremely cold in winter. As in all cold climates, fat is highly valued as a food and it seems fairly conclusive that the excessive amount of fatty tissue found around the rump and on the tail of the sheep in these sections has resulted from a breeding program with that end in view.

There is a wide variation in type to be found in fat tailed breeds of sheep. Some have a large accumulation on the rump and upper part of the tail; others carry the fat the entire length of the tail and weights of forty pounds for a tail are on record. Aside from the genetic angle, showing the possibilities in moulding animals to meet conditions or desires, the fat tails have a rather important economic value from the production of fur.

Persian Sheep

Not all varieties possess this character. Some grow but little wool, and in others the fur is valueless. The home of the fur

bearing type of fat tails is generally given as Persia and adjacent territories. From there they have been introduced into other parts of the world and in Africa great numbers were at one time to be found. In this country the fur value has practically disappeared and the sheep is valued primarily for mutton, except in Southwest Africa, where a considerable Persian lamb fur industry has been developed. The wool is used only for carpet manufacture and little, if any, attempt has been made toward fleece improvement.



The Fat Tail breeds of sheep vary in the degree of fatness of the tail. This is due both to condition of the animal and to the breeding.

The Tunis

In 1799 the Bey of Tunis, at the request of Consul Wm. Eaton, permitted the latter to ship a few of the broad tailed Barbary or Tunis Mountain sheep to the United States. These sheep were located near Philadelphia and, to induce farmers to try them, free service of the rams were given. The lambs from this cross were found to be very desirable killers and butchers were eager to buy them. The tail weighing six to eight pounds and consisting entirely of fat was described as "a feast for an epicure" and the quality of the meat was said to be the finest. The carcasses dressed well, as the bone was fine and head and pelt light.

Unfortunately for the breed, the craze for wool production seized the country and the Merino came into the picture to the exclusion of other breeds. For many years the Tunis was neglected and only found in a limited area in the South, principally the Carolinas.

A ram of the breed was crossed with Leicester ewes by George Washington, founding the Arlington breed that for a number of years was popular along the eastern seaboard.

About the year 1820 the demand for Tunis lambs in the Philadelphia market became active and attention was again drawn to the breed. One objection that had been raised was that the broad heavy tail of the ewe made breeding difficult and an effort was made to see whether or not this could be eliminated. A Mr. Powell of Pennsylvania used crossbred Southdown-Leicesters for this purpose with some success. This flock was said to have been the last remaining from the importation of 1799.

A few later importations were made, one in 1825, and ten years later near Baltimore a flock of crossbred Tunis-Leicester sheep were maintained. The difficulty in getting

the pure bred ewes in lamb, due to the heavy tail was the main objection to the breed and it is doubtful if a strictly pure bred specimen of the breed is to be found in the United States today. The native mountain sheep of the South are said to have been descended largely from Tunis and Longwool crosses.

The modern Tunis is a sheep of average size, distinguished by its bare tan face and legs and long pendulous ears of the same color. The body is of fair conformation, being heavy in back and loin, but lacking depth in the rear quarters. The fleece is $\frac{3}{8}$ to $\frac{1}{4}$ blood of fair quality and not very heavy. There is every reason to believe that a fairly heavy infusion of Southdown blood has been put into the breed by some of the breeders and the Tunis has, in consequence, been largely improved in form in the past twenty-five years. In this process of improvement it has lost much of the fat-tailed quality which it originally possessed.

It has only a limited distribution, a few flocks being found in New York and Indiana, and some grades still existing in the southeastern part of the United States. The modern Tunis shows the Southdown cross to a greater extent than the Leicester, and is well liked by some for the production of market lambs, as they are claimed to take on weight rapidly and economically.

Karakul

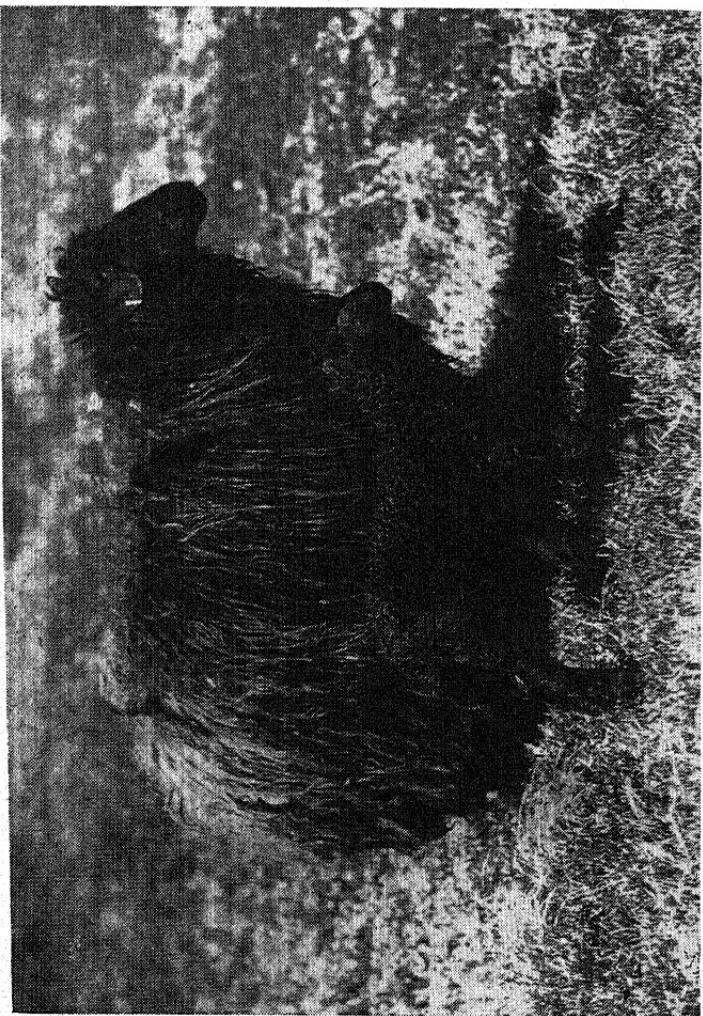
To return to the original home of the breed. It is not known just when men began breeding to secure the type of fur that is today known under various names such as Persian Lamb, Astrakan, Broadtail, Caracul and so on. That it dates back into early history is certain. For at least eleven to twelve hundred years we have records of the use of the fur of the young lambs for clothing purposes.

Owing to its beauty as well as its scarcity, this fur commanded high prices in the fur markets of the world and, in consequence, exportation of live animals of the breed were forbidden by the countries that possessed them; so for many years Bokhara, Persia and portions of Russia lying on the Caucasus Mountains enjoyed a monopoly on the production of Caracul fur.

Early in the present century some Americans became interested in the possibility of breeding Karakul sheep in the United States. Among these was President Theodore Roosevelt, who exerted his influence with the Russian Government to permit the exportation to this country of some breeding stock.

Permission finally being given, Dr. C. C. Young, who was a native of Russia, was commissioned to make the importation and five rams and ten ewes were secured and brought to the United States and taken into Texas. The date of this first importation was in 1908.

Dr. Young apparently, from that date on, devoted his time in securing more Karakul sheep for import into this country. The story of Jason in his search for the golden fleece, which some authorities state was a type of Karakul, finds a modern counterpart in Dr. Young's efforts to secure the best possible specimens for his shipments. His record abounds with accounts of being kidnapped and tortured by natives unwilling to let these prized animals out of their possession, of capture by Arabs and of ransoms and bribes paid, of smuggling sheep across the borders and, even after getting them safely landed in America, to discover top rams having been sterilized by tightly tying a gold wire around the spermatic cord. It is an ironical fact that the man who went through all this to make a contribution to the sheep industry of the country should finally die under suspicious circumstances in comparative poverty.



A good specimen of a Karakul ewe and her lamb. It is from the lambs that Persian Lamb, Caracul and Broadtail furs are obtained.

Following the 1908 importation, a few sheep were secured from the Hagenbach-Wallace circus that was carrying them on exhibition and a second importation was made from Russia in 1912.

Feeling that he might secure better individuals by going directly into Bokhara, Dr. Young started for that country in 1913 for another importation. This venture was financed by a group of Prince Edward Island men who were raising silver foxes.

It was on this trip that Dr. Young encountered the trouble referred to earlier. Some of the sheep were killed by the natives and on more than one occasion Dr. Young barely escaped with his life. He finally succeeded in bringing out fifteen rams and six ewes which were taken to Prince Edward Island.

Climatic conditions were unfavorable for the breed here, and after a two years' trial the flock was sold to a company at Fayetteville, New York, headed by Mr. F. E. Dawley.

In a conversation with Mr. Dawley, the writer was told that the sheep on arrival in New York state were in a deplorable condition and it was only by skilled management that the flock was saved. The cold, wet climate of Prince Edward Island had proven entirely unsatisfactory to the sheep, and disease had seriously impaired the flock. A foundation of twenty-four head was selected that met breeding and production demands and the rest were disposed of.

As might be expected from a breed being placed in the hands of some breeders not familiar with it, or even not too familiar with the laws of genetics, only a few breeders made an initial success in their breeding operations. Cross-breeding was resorted to and undoubtedly many animals were sold as Karakuls that were high, or not so high, grades. In consequence, many who were thinking in terms of \$20.00 to \$25.00 pelts, even on a lamb

born dead, discovered they were producing \$1.00 to \$2.00 pelts and the true value of the breed was discredited in consequence.

That the Karakul should suffer from this condition was only natural. It has been the history of every breed of livestock that became popular in the United States. In sheep, the Merino was the first to feel it, and unscrupulous importers and breeders cashed in on a popular demand. Today we are seeing another popular breed of sheep that is comparatively new going through the same period of selling anything remotely resembling it as "pure bred."

It is then no reflection on the Karakul breed to refer to this period of its introduction into the country. In Texas several flocks were founded. Among them, those of Alex Albright and Col. Goodnight. The latter flock has been dispersed, but the Albright flock is being carried on by the wife of the founder.

From these two points, Texas and New York, the breed has gradually been disseminated until it is now to be found in practically all sections of the country.

To discuss intelligently the qualities or values of Karakul fur (known as Caracul on the fur market) is beyond the capabilities of the writer. Neither does there seem to be a perfect accord among the breeders as to what constitutes an ideal breeding type or the best kind of pelt to produce. There is one phase of the breed that I do feel competent to pass on, and that is the quality of the lamb meat. It seems that breeders are overlooking a very profitable angle to the business in disregarding this side of Karakul breeding. No ewe will bring a lamb along to 80 or 90 pounds faster and no meat is more delicious than a Karakul lamb.

There would seem to be a good opportunity in developing a specialty trade in Karakul lamb equal; if not even in excess, of the fur value of the pelt.

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